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Telephone: WHitehall 9233 (12 lines). Telegrams: "Trazette, Parl, London"
BRANCH OFFICES

GLASGOW: 87, Union Street Central 4646
NEWCASTLE-ON-TYNE: 21, Mosley Street . . . Newcastle-on-Tyne 22239
MANCHESTER: Century House, St. Peter's Square . . . Central 3101
BIRMINGHAM: 90, Hagley Road, Edgbaston . . . Edgbaston 2466
LEEDS: 70, Albion Street Leeds 27174
BRISTOL: 8, Upper Berkeley Place, Clifton . . . Bristol 21930

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The Coronation Honours

REFLECTIONS on railway organisation during the passage of the Transport Bill have led many to a greater appreciation of the valuable services rendered by the directors of the former companies. Sir Ralph Glyn, formerly a Director of the Caledonian Railway Company and the London Midland & Scottish Railway Company, who is made a Baron in the Coronation Honours list, receives the honour at an appropriate moment, for the memory is still fresh of his contributions of counsel and experience to the Transport Bill debates. Among the new Knights are Mr. E. W. L. Field, Director of the Scottish Engineering Employers' Association, and Mr. S. W. Rawson, Director-General of Machine Tools at the Ministry of Supply, both of whom in their particular spheres are shaping the foundations of national productivity. There is further recognition of the country's indebtedness to those who plan and provide the means of production in the honour of K.B.E. bestowed on Sir Greville Maginness, Chairman of the Churchill Machine Tool Co. Ltd. Among the C.B.E.s, Mr. E. B. Ball, Managing Director of Glenfield & Kennedy Limited, has been honoured within a few months of the celebration of its centenary by a firm whose name is known to railwaymen all over the world. All railwaymen, also, will welcome the same honour given to Lt-Colonel G. R. S. Wilson, Chief Inspecting Officer of Railways, Ministry of Transport, both as a tribute to the

man and a distinction to the office he holds. Also made a C.B.E. is Mr. W. Surrey Dane, Joint Managing Director of our parent company, Odhams Press Limited, and a Director of Tothill Press Limited, the publishers of this journal, for services to King George's Jubilee Trust. Honours to serving railway officers have not been numerous, so that those there are become particularly welcome, but whatever the circumstances there would be general satisfaction with the honouring of Mr. F. W. Abraham, Motive Power Superintendent of the London Midland Region, with the O.B.E. Overseas railways receive a similar award in Mr. E. J. Borron, Assistant General Manager, Nyasaland Railways. These, and a selection of other honours to representatives of transport and associated industries, are listed in our Personal pages.

Publication of Punctuality Figures

IN their issues for May the Regional editions of the *British Railways Magazine* began publication of passenger train punctuality figures. The period reviewed comprised the four weeks ended February 21 last, during which occurred the great gale of January 31-February 1, with its serious effects in the Eastern, North Eastern, Southern, and Scottish Regions. Many areas, particularly in the London Midland and North Eastern Regions, also suffered from snow storms in the four weeks of the review. These conditions are reflected in the figure of 44.7 per cent of all express passenger trains arriving right time, out of a recorded total of 555,260 trains; 43.2 per cent of the steam and 63.7 per cent of the electric expresses were in this category. Express trains arriving within 5 min. of booked time are also shown, and in the period covered 67.8 per cent of the expresses (65.8 per cent of the steam trains and 93.3 per cent of the electric) qualified in this way. No margin is allowed in recording results under the heading "other trains," comprising mainly suburban and local services. In this category the right-time arrivals were 70.9 per cent steam, 76.4 per cent electric, and 72.6 per cent for all trains. Although there is no division among Regions in these results, the overall figures will no doubt prove of interest and encouragement as a background to similar tables compiled on a Regional or other local basis.

Moving the Victorian Wheat Harvest

THE Victorian Railways have earned praise from many quarters for speedily clearing the last wheat harvest. In this work the new 1,500 h.p. Co-Co diesel-electric locomotives, which are being supplied to a total of 26 by the Clyde Engineering Company of New South Wales, with General Motors engines, played a prominent part. Double-heading, they hauled trains of up to 75 wagons and nearly 2,000 ft. in length, and weighing as much as 2,200 tons. Between December 6 and January 31, a total of 26,358 wagon loads (about 20,000,000 bushels) was conveyed to Geelong, the bulk storages at Dunolly and Marmalake, and to flour mills. Wheat in excess of silo capacity was moved within a shorter period than during the previous harvest season, although the yield this time was greater. The first estimate of the number of wagons needed was 22,982, but the increased yield per acre caused the number to be increased by 3,376, of which some 3,000 wagons were required for placing at short notice in the Bendigo district.

Last Train to Gosport

THE five-mile section between Fareham and Gosport, with its intermediate station of Fort Brockhurst, loses its passenger service on June 8. It was opened in October, 1841, as part of the original route to Portsmouth—reached by ferry. The Act of 1839 which authorised the branch from Bishopstoke (now Eastleigh) to Gosport provided for the change of name of the promoting company from London & Southampton to London & South Western as a concession to Portsmouth pride. After the South Western gained direct entry to Portsmouth in 1848 the Fareham-Gosport section declined in status. It regained some importance with the opening in 1863 of a branch to

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Stokes Bay, whence a short-sea crossing to Ryde was provided until the 1914-18 war. In 1901 the body of Queen Victoria was conveyed from Osborne by way of Gosport, Fareham, Havant, and the L.B.S.C. route to London. During her reign she had often used the Gosport line when travelling to and from the Isle of Wight. The distance from Waterloo to Gosport was shortened from 90½ to 77¼ miles by the opening in 1903 of the Meon Valley line—built partly to thwart Great Western designs on Portsmouth—but no fast trains were put on. Road competition appeared early and the Fareham-Gosport local traffic was an easy prey; latterly there have been only two trains a day. Gosport, with 58,000 inhabitants, may now claim the doubtful honour of being the largest corporate town in the Kingdom without a passenger service.

Diesels on C.N.R. Fast Freights

COMMENTING recently on his company's five-year diesel programme, Mr. S. F. Dingle, Vice-President in charge of Operations, Canadian National Railways, said that by the end of this year all of the C.N.R. fast manifest freight trains in western Canada would be diesel-hauled. The schedules of fast freight trains from Toronto to Winnipeg had already been cut by the use of diesel power and 24 hours was being saved in the freight delivery service. This improvement, continued Mr. Dingle, was being maintained throughout Western Canada and other improvements in freight service could be looked for in the near future. Canadian railways understood that air and road competition had come to stay, but the C.N.R. was doing everything possible to maintain its place in the transport field. There was no doubt that the railways would continue to be the "work-horse" in the provision of transport service. The C.N.R. is now breaking all records in hauling grain traffic to the Lakehead, even though, unfortunately, it has 2,500 wagons made idle at Vancouver because of a strike there. Mr. Dingle said he was particularly impressed with the great industrial expansion going on in Winnipeg, Edmonton and Vancouver.

Air-Conditioned Services for Queensland

THE Queensland Government Railways first air-conditioned train, the "Inlander," made its first official run on February 1 between Brisbane and Toowoomba. Altogether nine air-conditioned trains will be built and will operate on the principal trunk lines radiating from the coast to the interior, and also on the North Coast Line between Brisbane and Cairns, a distance of approximately 1,040 miles. The first of the trains, described and illustrated elsewhere in this issue, is now in regular service on the 603-mile route between Townsville and Mount Isa. The service will be extended at three-monthly intervals to the Rockhampton-Longreach-Winton route, the Brisbane-Cunnamulla route, and the Brisbane-Cairns route. Altogether 99 new carriages are being built for the Queensland Government Railways by Commonwealth Engineering (Qld.) Pty. Ltd., of which five will be spare. The other trains will be named "Sunlander," "Midlander," and "Westlander" respectively. Five trains will operate on the Brisbane-Cairns services and one each on the other services. Very hot and humid conditions prevail in the tropical and sub-tropical climate of Queensland during the summer and the introduction of air-conditioned services will open a new era in passenger travel in the State.

Steam Traction in Switzerland

SHORTAGE of electric motive power in relation to traffic demands again necessitated a fair amount of steam locomotive mileage on electrified lines of the Swiss Federal Railways during the first quarter of the current year. The administration's report for this period states that steam locomotives ran daily over about 1,437 miles of electrified track, but this was between 625 and 940 miles less than in the previous quarter, due to a recession in freight traffic. Some relief was gained also from new electric motive power going into service during the period reviewed. This consisted of

one "Ae6/6" electric locomotive for Gotthard line service, one "CFe4/4" railcar, and two "Tem" class electric shunting locomotives with auxiliary diesel drive. Three steam locomotives were withdrawn during the first quarter of the current year and the stock now in service numbers 259. In spite of the amount of steam working, electric energy consumption was higher by 4,311,000 kWh. than in the first quarter of 1952, because of persistent cold weather.

Pressed Metal Industry Productivity

THE report by an American productivity team of 15 on the British pressed metal industry has been published. It points out that standardisation, although becoming more prevalent, has by no means reached U.S. standards. It was a common complaint of British executives that the customers would not let them standardise, and many assemblies containing a multiplicity of parts having the same function, but of different designs, could be standardised to increase output and lower costs. Tribute is paid to the relationships between the employers and the unions which was at a high level of friendliness and cordiality, the individual workmen responding with maximum of effort and co-operation in the drive for increased output. The report points out that the physical effort of the British worker is greater than that of the American, whose effort mechanical aids make more effective. In Britain the variety of pressed metal products is much more limited than in the U.S.A. and less attention is focused on the re-design of individual parts from the standpoint of profiting by basically new production techniques, that materially improve productivity.

The "Roaring Rail" Route

THE "Roaring U.P. Trail" was a familiar phrase to an older generation, and there is no doubt that the U.P.R.R. made capital and dividends out of it. But there can be reasonable certainty that the Deutsche Bundesbahn will not make money out of the roaring-rail trail followed by the *Rheingold* and other Hook of Holland-Basle trains. There are a few rumblings going south before Venlo, but from Kaldenkirchen Customs stop there is a continuous roar, making conversation uncomfortable, until a short welded section near Cologne brings a shattering silence. Thence to Coblenz the rail music is an almost unrelieved staccato, but just south of that city comes a deafening crescendo during which unmitigated howling is the only means of indicating to one's companions that a man who seemed to be ringing a bell has just passed down the corridor. Of all rail routes to Switzerland and Italy from England, Hook of Holland—the Rhine—Basle has good claims to be the most scenically attractive, the coaches used are, if anything, more comfortable than on other routes, and the night service provides a comfortable sleep on board ship. But the almost continuous rail-roar way down to Karlsruhe and beyond earns the German Federal Railways many bad marks from travellers who like to begin their holiday as they leave Parkeston Quay.

Plain Wrongdoing

COLONEL R. J. WALKER in his report summarised in this issue on the collision on August 18, 1952, near Bridgeton Cross, rightly calls the behaviour of the signalman, an experienced man, well spoken of, in forcing open an emergency release instrument and irregularly freeing the block—"plain wrongdoing." He had jumped to the conclusion that a train had passed unnoticed by him and in this way accepted another into the occupied tunnel section. His action in re-pulling all his signal levers also was peculiar and Colonel Walker considers he temporarily lost his head. Were it not that other similar cases are known it would be hard to believe that so experienced a man, especially one controlling tunnel block sections, could so lightly assume a train to have gone by and, without waiting to hear it had been seen at the box in advance, allow another to come on without even a cautionary warning. No doubt as Colonel Walker says, the particular trick to

which this man resorted must have been known to other signalmen, but they could hardly be expected to admit that.

Wrong Use of Emergency Releases

THE worst accident in the country arising from wrong use of an emergency release was that at South Croydon on October 24, 1947, when 32 lives were lost. There was one on March 28, 1900, near Charing Cross, Glasgow, on the then North British line, with seven fatalities, having some features in common with this recent accident. Peculiar cases, each involving a series of blunders, occurred at Kings Cross (Metropolitan) on June 17, 1903, and at Shepherds Bush (Central London) on September 30, 1913. Not many have involved actual tampering with equipment, but those at Westminster (District Railway) on June 17, 1903, and West Hampstead (Metropolitan) on October 26, 1907, with three fatalities, must have done so, though in neither case was the way in which the release was obtained made known. A Central London signalman discovered he could obtain one without breaking the mask of the ordinary release box, by inserting a knife blade between block instrument and shelf, cutting through the insulation, and joining two wires. Protective collets had then to be fitted. Such minds are a menace to any signalling system, however well constructed.

Summer Services, E. and N.E. Regions

CHIEF among the accelerations to be brought into operation over the principal main line of the Eastern and North Eastern Regions is the non-stop timing from June 29 of 6½ hr. over the 392.9 miles between Kings Cross and Edinburgh in each direction by the "Elizabethan." Last year the same train (the then "Capitals Limited") took 21 min. more down and 22 min. more up, and before the war it took 7 hr. in each direction, though the "Coronation" was allowed 6 hr. only, with York and Newcastle stops going north. But the latter was limited to a maximum of 312 tare tons in weight, whereas the "Elizabethan" may be made up to 400 tons with an "A1" or "A4" Pacific. The down train is booked to pass York, 188.2 miles, in 189½ min.; coming up, the allowance is 194½ min., but includes 28 min. for the final 17.7 miles from Hatfield.

In the general summer timetable beginning on June 8 the 4.45 p.m. down "Tees-Tyne Pullman" is accelerated 14 min. to Newcastle (9.37 p.m.), running the 232.3 miles to Darlington non-stop in 232 min. (60.1 m.p.h.); coming up, the acceleration is 20 min., the start from Newcastle being 10 min. later (9.25 a.m.) and the arrival 10 min. earlier (2.8 p.m.), with a non-stop run from Darlington in 229 min. (60.9 m.p.h.). The "Flying Scotsman," taking 7 hr. 28 min. each way between Kings Cross and Edinburgh, is 22 min. quicker than now and 12 min. quicker than last summer; the London-Newcastle time, with Grantham stop, is 5 hr. 1 min. down and 4 hr. 58 min. up. As usual in summer, the down "Heart of Midlothian" (2 p.m. from Kings Cross) omits stops between Newcastle and Edinburgh, and arrives at 9.39 p.m., 21 min. quicker than now, and 11 min. faster than last summer. The 10.5 a.m. down Glasgow is 24 min. faster to Edinburgh, arriving at 6.2 p.m.; the Durham stop is omitted.

Acceleration of the "Queen of Scots" Pullman provides a non-stop timing of 3½ hr. over the 185.8 miles between Kings Cross and Leeds in each direction; going down, the start is altered from 12 noon to 12.5 p.m., but the arrival at Edinburgh is at 7.57 p.m., 5 min. earlier. Coming up, the arrival at Kings Cross is 15 min. earlier, at 7.50 p.m. This has involved an acceleration of the up "White Rose," to keep clear; the latter leaves Leeds 5 min. later, at 3.20 p.m., but arrives 15 min. earlier, at 7.40 p.m., omitting the Hitchin stop. The down "White Rose" is moved from 9.18 to 9.10 a.m. from Kings Cross, to keep clear of the "Elizabethan," runs non-stop over the 156.0 miles to Doncaster in 167½ min., and is due in Leeds at 12.55 p.m., 16 min. earlier. Several up expresses reach Kings Cross from 8 to 10 min. earlier, including the "Yorkshire Pull-

man" (Leeds 10.45 a.m., Kings Cross 2.28 p.m.); the 5.30 p.m. down "Yorkshire Pullman," with a non-stop run over the 156.0 miles to Doncaster in 163 min., reaches Leeds at 9.5 instead of 9.16 p.m., and Harrogate at 9.45 instead of 9.56 p.m.

The most spectacular acceleration on the London-Leeds-Bradford service is that of the 8 a.m. from Kings Cross, put on in October last for the benefit of businessmen desiring to reach Leeds well before lunch. This is now to start at 7.50 a.m., and to run the 124.1 miles from Hitchin to Doncaster start to stop in 113 min. (65.9 m.p.h.), and the fastest run in Great Britain, reaching Leeds at 11.11 instead of 11.31 a.m. and Bradford at 11.35 instead of 11.55 a.m. In any future timetable revision, the usefulness of this train might be increased by running a connection from Doncaster (reached at 10.26 a.m.) to York in time to connect with the 11.30 a.m. from York to Newcastle, due there 1.6 p.m. This would afford a valuable early morning service from London to Tees-side and Tyne-side, and would give a full 3½ hr. in each area to businessmen desiring to return the same day, which they could do on the up "Heart of Midlothian" (4.35 p.m. from Newcastle), due Kings Cross 9.50 p.m.

In the up direction, the special express from Leeds leaves at 6.40 instead of 6.33 p.m., runs from Doncaster to Hitchin in 116 min., but is scheduled to take no less than 49 min. from Hitchin arrival to arrival in Kings Cross, 31.9 miles away, at 10.5 p.m. It may be added that the times of all up expresses over this main line are inflated in the summer timetable both by recovery margins and additional allowance for engineering work between Potters Bar and New Barnet; most are allowed 30 min. for the 17.7 miles in from Hatfield, as compared with 20 min. or less prewar.

Completion of drainage work between York and Darlington has freed this high-speed stretch of speed restrictions, and there is now scheduled over this 44.1 miles the fastest service of its history. In the southbound direction the "North Briton" is allowed 42 min. start to stop (63.0 m.p.h.); the 8.37 a.m. from Newcastle to Bournemouth and the 3.55 p.m. from Newcastle to Birmingham 43 min. (61.5 m.p.h.); and there are three daily runs in 44 min. (60.1 m.p.h.), and three in 45 min., with several others at weekends. Going north, for the first time on record there is a 43-min. booking (the "North Briton"), with two in 44 min., and others, fairly numerous at weekends, in 45 min., against the rising tendency of the road. On Saturdays, there are 15 runs in all scheduled in both directions at over 60 m.p.h., 9 in 44 min., 4 in 43 min., and one in 42 min. Amongst other mile-a-minute bookings on the Eastern and North Eastern Regions, the 8 a.m. from Kings Cross to Hull is scheduled from Hitchin to Peterborough, 44.5 miles, in 44 min.; and the 2 p.m. from Leeds to Kings Cross from Grantham to Peterborough, 29.1 miles, in 29 min. Neither of these last-mentioned runs had any counterpart before the war.

To fit in at Cambridge with the revised Liverpool Street-Cambridge service, the buffet car trains between Kings Cross and Cambridge are altered in times, and accelerated. The 9.5 a.m. down starts at 9.22 a.m., and arrives at 10.45 a.m. (7 min. faster); the 12.5 p.m. at 11.55 a.m., arriving 1.22 p.m. (3 min. faster); the 2.5 p.m., with starting time unaltered, arrives 4 min. later, at 3.34 p.m.; and the 8.5 p.m. starts at 8.2 p.m. and arrives at 9.26 p.m., 11 min. earlier. Departures from Cambridge for Kings Cross are at 9.18, 11.10 a.m. 3.15 and 6.12 p.m., instead of 9.10 a.m., 12.10, 3.10, and 6.10 p.m., and Kings Cross arrivals at 10.40 a.m., 12.30, 4.37, and 7.45 p.m., accelerations of 8 and 13 min. in the first two cases, and decelerations of 2 and 8 min. in the last two, respectively.

On the Great Eastern Section, additional to the reorganisation of the Cambridge main-line service dealt with in detail last week, the 12.30 p.m. from Liverpool Street to Cromer is slowed by 6 min. to Norwich (arriving 2.51 p.m.) and 25 min. to Cromer (4.9 p.m.), to permit 400-ton loads to be worked in place of the present 300-ton limit. In comparison with the 3.30 p.m. down "Broadman," allowed 73 min. for the 68.7 miles from Liverpool Street to Ipswich, and now only 44 min. for the 46.3 miles thence to Norwich (63.2 m.p.h. start to stop), it seems

surprising that the 12.30 p.m. should require no less than 10 min. more on the former stretch and 11 min. on the latter to compensate for an increase in load from 9 to 12 coaches. Among other changes, instead of two closely-spaced express trains from Clacton-on-Sea to Liverpool Street at 8 and 8.10 a.m., the former is now to be started earlier at 7.40 a.m., arriving at 9.23 instead of 9.42 a.m., a useful change for those who desire to be at their City offices by 9.30 a.m. An interesting development in the outer suburban area is an express from Liverpool Street at 5.22 p.m. to the Buntingford branch, calling only at Broxbourne and with the next stop at Mardock, on the branch.

On the Great Central Section there is a general smartening up of times between Sheffield and Manchester, averaging 6 min. in each direction. There is also some paring of times between Marylebone and Leicester, but this is partly nullified by increased time allowances between Nottingham and Sheffield, doubtless due to mining subsidence restrictions. The 3.20 p.m. from Marylebone is accelerated by 13 min., arriving Manchester London Road at 8.40 instead of 8.53 p.m., the 10 a.m. down by 10 min., the 8.25 a.m. from Manchester by 13 min. (arriving 1.45 p.m.), and the 3.55 p.m. up by 13 min. (arriving 9.20 p.m.); the "South Yorkshireman" is accelerated 9 min. from Sheffield to Marylebone.

Sir Sam Fay

PERHAPS the brightest era in the history of our railways covered the years from 1890 to the outbreak of the first world war. Then we had some twenty major railways competing for traffic and, though by 1900 it was clear that no more main lines would be built, there was no lack of enterprise in providing new facilities. It might be termed a period of certainty, with no warning that the development of the internal combustion engine would revolutionise transport. So the general managers of the railways were a power in the land and went about their business in a confident mood, bordering at times on complacency. Sir Sam Fay, whose long life has just come to a close, was in some respects typical of the class of hard-bitten railwaymen who rose to the top positions. Before he was appointed General Manager of the Great Central Railway in March, 1902, at the age of 46, Fay had been at work on railways in the south-west of England for thirty years, becoming Superintendent of the London & South Western in 1899.

At the summit of his career, he was reputed to be a "thoroughly practical railwayman, without fads." Assuredly he was not an innovator in operating methods and he had not been a general manager long before he was defending the established order. He joined a number of conservatively minded colleagues in criticising George S. Gibb's scheme for reorganising the North Eastern Railway in 1902. Gibb's root-and-branch plans were based largely on American practice. His critics could not see how any good thing could come out of the U.S.A. Large wagons and big train loads might be all very well there, but there was no scope for them in Great Britain. So said the die-hards, and of course they had no use for ton-mile statistics. This amusing controversy soon ended in a pretty general movement to increase the size of our railway wagons and the tractive power of freight locomotives. The G.C.R. did not fall behind its rivals in modernising its equipment and Fay wisely crossed the Atlantic to observe what the American railways were doing.

In sharp contrast to the conservative strain in Fay's character, there stood out a keen sense of commercial enterprise, which went with a liking for a bargain and great tenacity in pursuing a forward policy for the Great Central among a crowd of competitors. When he became General Manager, the line had been extended to London, but carried only a thin traffic. Fay improved passenger and freight services in an uphill fight to fill the spare capacity, but, when his company came to discuss terms of amalgamation with the "Eastern Group" on the passing of the Railways Act, 1921, it pleaded insistently that there was still room on its

system for extensive developments, so that future possibilities increased its value as a partner in the new undertaking.

The Great Central was the opposite of a monopoly. It lived dangerously amid a welter of competition, with its finances often at a low ebb. Yet Fay never held back when new developments were afoot. During his term of office, the South Yorkshire coalfield was extending rapidly and there seemed to be no limit to future coal output or to coal exports. Bent on capturing a share of the new traffic, the G.C.R. decided to construct a dock at Immingham, on the south bank of the Humber, spacious enough to ship a huge quantity of coal and also to deal with a large volume of general overseas trade. This undertaking may be regarded as his monument, though it has not fulfilled its planners' hopes.

In carrying through the Immingham scheme and other minor projects, Fay had the powerful backing of Lord Faringdon, whose genius for finance steered the G.C.R. through more than one crisis. Fay could rely, too, on his Chairman's support in conducting the inter-company negotiations which occupied the time of general managers before the 1914-18 war, such as the five-company agreement for the South Yorkshire Joint line and the working arrangements between the "Three Greats." An astute negotiator, Fay was apt to act on intuition at times, and gave weight to the advice tendered by Dixon Davies, the able Solicitor of the G.C.R. Rarely can a railway company have had a Chairman, a General Manager and a Solicitor with such a relish for adventure in business dealings.

In handling his staff, he was rather an autocrat; a man of moods, he was sometimes hard to approach. Industrious himself, if somewhat spasmodically, he expected his staff to exert themselves strenuously when there was much to be done, which engendered a capacity for good work in Great Central men. The "higher grade clerks" scheme was another fruitful means of drawing out latent talent. The training was planned on original lines and involved a spell in almost every railway department—"Stores" not excepted. The value of the training was proved at the 1923 amalgamation, when the L.N.E.R., after considering applicants from all parts of its system, chose many former G.C.R. higher grade clerks for responsible posts in the new organisation.

In his relations with labour, Fay was not altogether happy; perhaps the policy of his board was to blame. In times of decreasing traffic receipts, the directors would press for substantial economies and the quickest way was to curtail the number of employees in wages grades. Such measures inevitably intensified the pressure of the unions for recognition as the representatives of the staff in negotiating pay and conditions. The North Eastern Railway had negotiated with the unions over a long period, but the general managers, as a body, failed to see that the time had come for following that example; and Fay was obdurate in opposing any change. This was a weakness in his mental equipment which prevented him from becoming an unbiased and judicious adviser in matters of high policy. Qualities different from his self-confidence and offhand style were necessary to guide the railways in dealing with changes in the national economy which gathered strength from 1906 onwards until their full force was felt after the first world war. As a resourceful opportunist he was far from possessing the reflective cast of mind needed to unravel complicated issues. So he was not in advance of the conventional opinions which swayed the majority of railway managements between 1900 and the passing of the Railways Act of 1921. Nor could he have adapted himself to the new order which that Act brought about; his decisions were apt to be arbitrary and he had not a democratic outlook, whilst his faculties seemed designed for the independent sphere of private enterprise and not for what had become virtually a great public utility.

Within his own realm he was a vigorous, picturesque figure. He gave the impression of really running his railway. When he went down the line by special train, there was no disguising the stir and bustle at every stopping place; for such on these trips there was no need for a

Public Relations Officer. Fay could look after his own contacts and was a capital advertiser when he chose to let himself go. More than a quarter-of-a-century has passed since he demitted office, so that his achievements and limitations as a railway administrator can be judged impartially. Elsewhere in this issue a biography enumerates some of the activities which occupied him to a ripe old age. Not the least of these was his chairmanship in 1923-33 of Beyer, Peacock & Co. Ltd., where his drive and experience stood him in great stead. He cannot have had many dull moments in his long career.

British Transport Commission Traffic Receipts

THE pattern of British Railways freight receipts for Period 5, the four weeks to May 17 is basically the same as for the preceding weeks. Mineral receipts at £3,574,000 were 11.6 per cent up on the corresponding period of last year, which, even allowing for the 5 per cent rise in rates, is encouraging, and reflects increased steel production. Aggregate mineral receipts for the first 20 weeks of this year likewise show an increase of 10 per cent over 1952. A somewhat similar trend appears in coal traffics, with increases over last year of 10.5 and 8.4 per cent respectively for Period 5 and the aggregate. No comparison with the preceding period is valid, because of the incidence of Easter in Period 4. Merchandise and livestock receipts at £8,665,000 exceeded last year's for this period by only 2.5 per cent, and by only 1.5 per cent for the aggregate, which latter seems to show a very slight improvement. The situation, however, is not happy in view of the rise in merchandise charges since last year, and the railways are in for a stiff fight, with the freedom in charging conferred on them by the new Act.

	Four weeks to May 17		Incr. or decr.	Aggregate for 20 weeks		Incr. or decr.
	1953	1952		1953	1952	
British Railways—	£000	£000	£000	£000	£000	£000
Passengers ...	7,737	7,510	+ 227	36,368	35,523	+ 845
Parcels, etc., by passenger train ...	3,012	2,792	+ 220	14,157	13,310	+ 847
Merchandise & livestock ...	8,665	8,446	+ 219	42,511	41,873	+ 638
Minerals ...	3,574	3,202	+ 372	17,827	16,197	+ 1,630
Coal & Coke ...	8,764	7,931	+ 833	43,554	40,174	+ 3,380
Total British Railways ...	31,752	29,881	+ 1,871	154,417	147,077	+ 7,340
British Railways C. & D. ...	945	898	+ 47	4,474	4,418	+ 56
British Road Services ...	6,350	6,163	+ 187	30,159	29,959	+ 200
Road Passenger Transport: Provincial & Scottish ...	3,598	3,420	+ 178	16,646	15,643	+ 1,003
London Transport—						
Railways ...	1,371	1,441	— 70	6,838	6,690	+ 248
Buses & coaches ...	3,182	3,182	—	14,808	14,105	+ 703
Trolleybuses & trams ...	725	798	— 73	3,446	3,653	— 207
Total London Transport ...	5,278	5,421	— 143	25,092	24,448	+ 644
Ships ...	750	759	— 9	3,182	3,261	— 79
Inland Waterways: Carrying—						
Freight charges ...	77	66	+ 11	351	339	+ 12
Total from passengers ...	16,919	16,661	+ 258	79,268	76,748	+ 2,520
Total from freight, parcels & mails ...	31,831	29,947	+ 1,884	155,053	148,397	+ 6,656
TOTAL FROM CARRYING ACTIVITIES ...	48,750	46,608	+ 2,142	234,321	225,145	+ 9,176

Apart from railway mineral traffic the most encouraging feature of the returns for Period 5 is British Road Services receipts. At £6,350,000 these were 3 per cent up on 1952, whilst the aggregate for the 20 weeks shows an increase of 0.6 per cent—a remarkable achievement in view of the fate of this undertaking under the Act. Receipts from B.T.C. ships were 1.1 per cent less than last year's for the period, and 2.4 per cent less in the aggregate. No explanation of this is possible yet in view of the relaxation in the Spring of foreign travel currency

restrictions, though restrictions on certain classes of imports from the Continent may have had some effect.

	Four weeks to May 17	Twenty weeks to May 17
British Railways—		
Passengers ...	+ 3.0	+ 2.3
Parcels ...	+ 7.8	+ 6.3
Merchandise & livestock ...	+ 2.5	+ 1.5
Minerals ...	+ 11.6	+ 10.0
Coal & coke ...	+ 10.5	+ 8.4
Total ...	+ 6.2	+ 4.9
C. & D. Services ...	+ 5.2	+ 1.2
Ships ...	— 1.1	— 2.4
British Road Services ...	+ 3.0	+ 0.6
Road Passenger Transport ...	+ 5.2	+ 6.4
London Transport—		
Railways ...	— 4.8	+ 2.2
Buses & coaches ...	— 9.1	+ 4.9
Trolleybuses & trams ...	— 9.1	— 5.6
Total ...	— 2.6	+ 2.6
Inland Waterways ...	+ 6.8	+ 2.0
Aggregate ...	+ 4.5	+ 4.0

Western Australian Government Railways

THE report for the year ended June 30, 1952, of Mr. A. G. Hall, Commissioner of Railways, Western Australia, closed with a railway deficit of £2,843,683 after payment of working expenses and interest. This figure showed a deterioration of £158,859 on the financial showing of the immediately preceding year, and this can be attributed to the metal trades' strike which began on February 21, 1952, and continued until August 18. Even with this temporary setback, ton-mileage and earnings figures were records in the Department's history, and had normal conditions obtained the figures must have been correspondingly greater. The effects of the strike will be even more severely felt in 1952-53 because of the lengthy period which must elapse before sufficient locomotives are returned to traffic to permit the restoration of normal service.

The following are some of the principal results:—

	1950-51	1951-52
Mileage open ...	4,228	4,113
Train-mileage ...	7,135,668	6,801,622
Passenger journeys ...	12,094,747	11,121,778
Goods ton-miles ...	459,973,271	469,747,561
Average staff employed ...	11,836	12,049
Passenger receipts ...	£ 1,376,944	£ 1,532,873
Goods receipts ...	5,363,106	7,150,493
Miscellaneous receipts ...	456,164	480,166
Total receipts ...	7,196,214	9,163,532
Working expenses ...	8,618,863	10,601,917
Working deficit ...	1,422,649	1,438,385
Interest charges ...	741,592	744,903
Depreciation ...	520,583	660,395
Final deficit ...	2,684,824	2,843,683

Earnings for the year reached £9,163,532, an increase of £1,967,318. As recorded last year, an increase of approximately 30 per cent was made in freights and fares, operative from May 1, 1951, and the effect of a full year's operation of this was noticeable in the year just closed. Goods traffic was responsible for the greater part of the higher earnings, representing an increase of £1,787,387. Coaching returned £155,929 more than in the immediately preceding year, and refreshment services increased by £23,781.

Unfortunately, basic wage increases, other industrial awards and constantly rising prices more than absorbed the result of the increased revenue. Operating expenses rose from £8,618,863 in 1950-51 to £10,601,917 in 1951-52. Particular items of uncontrollable expenditure which occurred during the year and affect the expenditure at the following annual rates were basic wage increases (£1,160,800) and industrial awards (£70,660), but other items such as higher cost of coal, extra payroll tax, and rising costs generally, coupled with the inability to make effective reductions in expenditure to offset the reduced revenue through the metal trades strike, all contributed to the net result.

The capital investment at June 30, 1952, was £23,501,123,

an increase of £4,244,738 during the year. The largest individual item in the capital expenditure for the year was locomotives and wagons, which involved £2,283,000. Other substantial items were housing, £853,000; workshops re-organisation, £471,000; permanent way renewals and improvements, £609,000; and communications and interlocking, £163,000. The percentage of working expenses to earnings was 115.69.

Train-miles run totalled 6,801,622, a decrease of 334,046, attributable to the reduced engine availability towards the close of the year. Earnings per train-mile were 304.33d. (previous year 226.41d.), and operating expenses 357.27d. (275.93d.). Passenger journeys numbered 11,121,778, and coaching earnings, mails included, totalled £1,532,873. Passenger services were the first affected by the metal trades strike, and reduced patronage was the inevitable result. Paying goods and livestock tonnage was 3,062,641, an increase of 29,428 tons. The average haul was 153.38

miles, an increase of 1.73 miles. Ton-mileage of paying goods and livestock reached a new record total of 469,747,561 ton-miles, an increase of 9,774,290. This is regarded by the Railways Commission as a very satisfactory result in the circumstances. Delivery was completed during the year of 60 "W" class 4-8-2 type engines, built by Beyer, Peacock & Co. Ltd., and these were of inestimable value in maintaining traffic at the satisfactory level attained. But for these engines, the Department's haulage capacity during the strike would have been much less.

The average mileage of line worked was 4,113, having been reduced by 115 miles as a result of the discontinuance of the isolated railway from Port Hedland to Marble Bar. The mean population of the State rose by 20,000 to 591,000, representing 143 persons to each mile of railway. The average staff employed during the year was 12,049, an increase of 211.

LETTERS TO THE EDITOR

(The Editor is not responsible for opinions of correspondents)

Availability of Season Tickets

May 22

SIR,—If railway fares are to be increased I suggest that the pill might be sweetened somewhat by the removal of the recently imposed restrictions on availability of season tickets.

A season from West Croydon to Victoria, for example, is not available at East Croydon although the rates are the same from each station. The free use of alternative routes helps to spread the passenger load and surely cannot affect the revenue.

Yours faithfully,

S. E. LORD

60, Fairway, Carshalton Beeches

Timetable Improvement

May 22

SIR,—A correspondent in *The Times* whose letter you quoted in "The Scrap Heap" last week complained that since the Railway Executive had taken over from the separate companies, the public timetables had shown no improvement. As a regular traveller I share his opinion, and would offer the following suggestions.

Given a larger page, the main line tables need clarification, so that stations on the main line are printed, perhaps in Roman letters, with main stations in capitals, and connections are printed in italics. Intermediate stations between, for example, Doncaster and York, other than Selby, should be omitted, the local line between those stations being treated as though it were a branch line and having a separate table. If this were done the whole main line from Kings Cross to Newcastle, if not to Edinburgh could be shown at one opening, instead of stopping short at York as now.

There should be tables based on through cross-country trains such as Colchester and Norwich to York and Liverpool, or Swindon to Sheffield; these should be printed as main line tables with connections shown in italics. It would be helpful if the map could indicate the main through routes, so that, for example, it is clear that beyond Exeter the Southern route goes through Okehampton whereas the Western route goes through Newton Abbot.

Lastly, where there is no room in the main line tables to show connections, the number of the branch line table should be shown against the main line station. To take an example from the Eastern Region, table 3 from Liverpool Street to Norwich and Yarmouth gives the numbers of the Clacton, Harwich and Sheringham branch tables, but why not give the Sudbury page or table number at Marks Tey, and the Aldeburgh table at Saxmundham, and the Felixstowe table at Ipswich? Even with the present

size page there would be room, on branch timetables to show main line connections in the down as well as the up direction. For example the Eastern table 36 could show connections from Saxmundham to Beccles as well as London; table 38 from Witham to Ipswich; table 41 from Audley End to Cambridge.

I think, with the correspondent, that timetable printing has got into a rut, and it is time we had something fresh and interesting.

Yours faithfully,

HOWARD DIAMOND

45, St. Barnabas Road, Cambridge

Summer Timetables

May 25

SIR,—When I read the criticisms of Mr. H. W. Franklin in your May 22 issue relative to the pending summer rail services, it made me seriously wonder if your correspondent has any appreciation of the enormous task of fitting into an ordered pattern the thousands of trains which run every day. If, as he would appear to suggest, every important and fast train had a connection to everywhere, then there would be no express trains; but the undisputed fact that connections are so good is surely a tribute to those who have the task of planning the best service for the majority of the travelling public.

It is only too true that most travellers want a fast train on the route they use most, with, of course, the additional services of a restaurant car, but I wonder what would happen if the Railway Executive invited suggestions before it planned its next winter's service. It is only a guess, but I believe that it would prove totally impractical to adopt a fraction of the suggestions, for those who had any ideas would only be thinking of their own lines of travel, and would have given no thought to what should happen prior to, and after, their particular journey.

The planning of train timetables is a skilled job, with the necessity of ensuring that the whole route should be taken into consideration to give the maximum of service to the majority. Your correspondent has the same name as myself, but after giving my whole working life to the railway service my views are, I believe, based on practical experience of transport difficulties, and are perhaps bound to be different in approach.

Still, we Franklins have this in common: we are both deeply interested in railways and in giving the maximum benefits to those who use our services.

Yours faithfully,

H. W. FRANKLIN,
President

National Union of Railwaymen, Unity House,
Euston Road, London, N.W.1

THE SCRAP HEAP

Same Principle, Higher Speed

For very short journeys, the helicopter might be considered as giving all the conveniences of a branch railway line. This was most admirably demonstrated by the Duke of Edinburgh when he took off from the lawn of Buckingham Palace and landed at Pirbright, 30 miles away, in 20 minutes.—From "The Daily Telegraph."

Any Suggestions?

If some passengers had their way, what a railway system we would have!

That man who has been asking for Men Only compartments is just the latest of hundreds every year with bright ideas for brighter travel. There are people who want No Talking, No Children and Business Only compartments. If they had their way most

of us would have to travel in the goods van. . . . There are people who want radio loudspeakers in every compartment (even the one you refrain from using when the train is stationary); power plugs for electric razors; barber's shops; secretarial boudoirs staffed with girl typists; playpens with railway nannies for the children.—Alan Dick in the "Daily Herald."

Upsetting the Apple Cart

A shunting locomotive at Coffs Harbour, about 400 miles north of Sydney, collided recently with a cage containing five fully-grown circus lions. The cage was being drawn across the station yard by an elephant. The lions escaped, and residents had to be warned by a special broadcast from the local radio station to

remain indoors until they were rounded up and recaptured.

Morayshire Railway Memento

A memento of the Morayshire Railway has been added to the collection of historical railway articles on perma-



nent display in the railway museum at 23, Waterloo Place, Edinburgh.

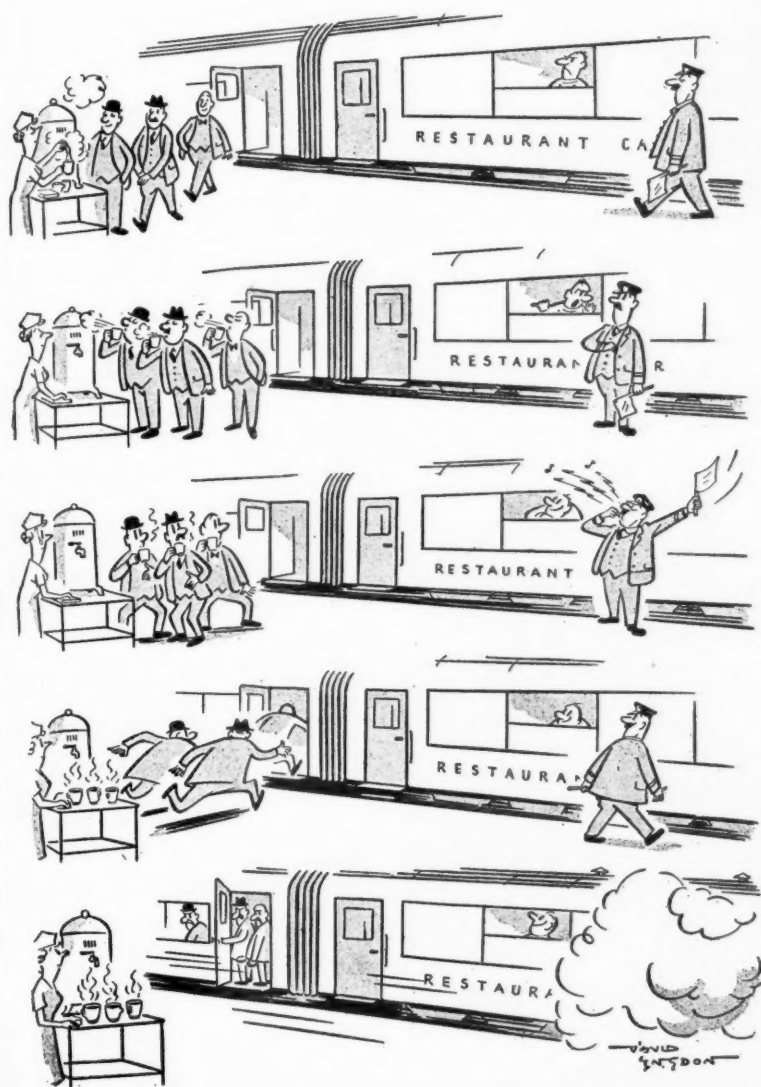
The building of the Morayshire Railway, connecting Lossiemouth with Elgin, began in 1851, and on November 29 of that year the first turf was cut at Elgin, by Mrs. J. Grant, wife of Provost J. Grant, who was Secretary of the company. The spade used on that occasion has been lent to the collection by Mrs. M. S. Hunter, granddaughter of the original recipient. The two silver plates it bears are inscribed:

Morayshire Railway
Chairman, D. D. Manson, Esq., M.D.
Engineer, J. Samuel, Esq.
Secretary, J. Grant, Esq., Provost.
Contractors
Messrs. Hutchings & Co.

This spade is respectfully presented to Mrs. Grant by G. Simmons, Resident Engineer, on the occasion of her favouring the above Railway Company by turning the first turf at Barflat Hill, Elgin,
Novr. 29th, 1851

Coronation View

Passengers in a recent "Women Only" excursion from Saltburn, N.E. Region, to Stirling, were able to watch the scenery from the "beaver-tail" observation car of the pre-war L.N.E.R. "Coronation" express. A charge of 1s. was made for a 30-min. session in the coach, which has armchair seating for 16 passengers.



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OVERSEAS RAILWAY AFFAIRS

(From our correspondents)

CANADA

Diesel Haulage of Fast Freight Trains

A transcontinental freight service nearly 24 hr. faster than at present was announced recently by Mr. S. F. Dingle, Vice-President, Operations, Canadian National Railways. It follows experiments with diesel locomotives hauling fast freight trains during the past few months. Mr. Dingle said that it was one of the most significant improvements to be introduced by the railway for many years. The use of diesels has reduced by half the running time for the 800 miles from Winnipeg to Edmonton. Coaling and watering stops are dispensed with and heavier trains may be hauled.

UNITED STATES

Accelerated Pacific Coast Freights

Acceleration of the through freight service operated jointly by the Atchison Topeka & Santa Fe, Western Pacific, and Great Northern along the Pacific Coast between Los Angeles and Seattle has resulted in a cut of 13 hr. in the running times, and delivery at the terminals on the fourth morning after the day of despatch. Two departures daily in each direction are on running times of 83½ hr. over the 1,329 miles.

Diesel Working on the Santa Fe

In the annual report of the Atchison Topeka & Santa Fe the President pointed out that in December, 1952, gross ton-

miles of freight per train-hr. reached a record figure. From 1941 to 1952 inclusive, the increase was from about 37,000 to about 63,000, and is explained by the progressive dieselisation of the freight services, from 5 to 77 per cent in the same period. By the end of 1952, also, 93 per cent of the passenger coach-miles and 95 per cent of the yard-shunting locomotive hours on the Santa Fe were being handled by diesel-electric locomotives.

ALGERIA

New Maritime Station at Algiers

The first part of an ambitious scheme, dating back to pre-war days, for a new maritime station at Algiers is taking shape. When completed, the works will comprise buildings and quays adequate to handle 4,000 tons of fruit and vegetables a day and simultaneously 2,000-3,000 passengers (two ships), and for the freezing and cold storage of up to 8,000 tons of fruit and vegetables.

It is situated on a trapezoid pier, occupying a site 300 m. long, 230 m. wide on the land side, and 125 m. wide on the harbour side. The quays along the flanks and on the harbour side will accommodate five vessels with 10 to 12 m. draught. Each of the flanking quays will have three railway sidings. The total length of standard-gauge railway track will amount to 3,600 m.

The buildings occupying the central part of the pier will have three storeys. The ground floor, with rail and road

access, will be used for handling general merchandise. The first floor, which will have road access by ramps, is reserved for handling and freezing fruit and vegetables. The second floor will be a passenger terminal, accessible from a large forecourt which will be connected by ramps with the main road and will accommodate nearly 150 cars and taxis. The premises of the passenger terminal will include large arrival and departure halls, a customs inspection hall, and offices of shipping companies.

The design has been governed by a number of important considerations. There was to be no undue encroachment on the skyline of the buildings lining the famous seaside boulevard, on which also traffic had not to be impeded. A financially important consideration was the possibility of constructing the terminus in several stages.

FRANCE

Bulk Sugar Conveyance

In the February 22, 1952, issue, reference was made to experiments carried out in the conveyance of bulk crystallised raw sugar in ordinary high-sided open wagons specially adapted for the traffic. These tests, which entailed sealing all joints with adhesive cello tape, were most successful and a considerable tonnage of sugar was conveyed in this way.

Experience has enabled the process to be greatly simplified. The use of cellophane has proved unnecessary provided the wagons used are chosen with care, and it is found to be sufficient to cover the inside of the wagon doors with old sacking. For unloading, the use of a mobile crane has been dispensed with, and the work is now performed at a fixed point by means of an automatically-worked grab-bucket.

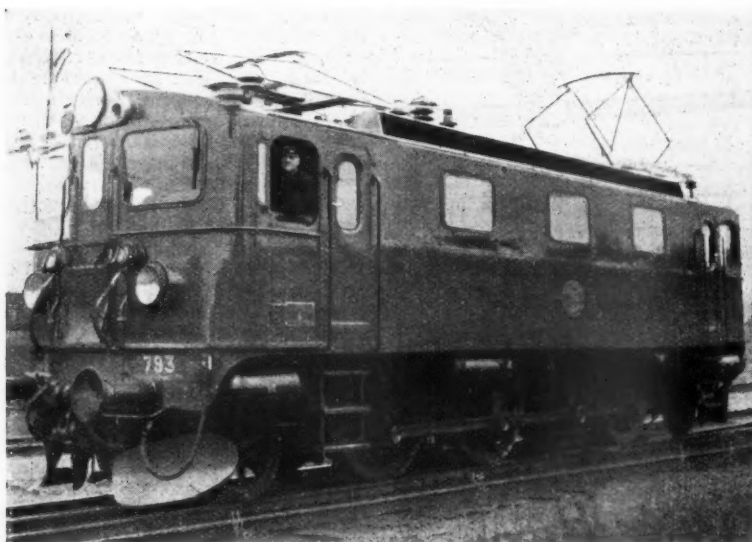
Zonal Centres

Details of the operation of the Orleans zonal centre show the close co-operation which has been developed between the S.N.C.F. and the road haulage undertakings. The road transport firms have formed a special organisation to act as liaison with the S.N.C.F. for which they operate road services under contract (see September 19, 1952, issue).

In general, consignments of less than 500 kg. received at Orleans are conveyed by road to the local station or depot where they are collected by the trader, and larger consignments are delivered direct to the trader's premises.

Each road transport vehicle is allocated to a particular area. It is loaded each morning with the packages received by rail at the Orleans centre and delivers them to stations, depots and traders' premises on its route. It is arranged that the vehicles terminate

Swedish Electric Locomotive Design



Class "Da" 1-C-1 locomotive with jackshaft drive, built for the Swedish State Railways by Allmänna Svenska Järnvägsverkstaderna with electrical equipment by Asea. Two of this class coupled haul ore trains of up to 3,000 tons on the Lapland-Narvik line

their outward journeys as near as possible to the owner's headquarters at approximately 11 a.m. From then until approximately 5.30 p.m. the vehicles can be used for other traffic as required by the owner, but subsequently a return trip is made to Orleans to collect packages for evening despatch by rail.

If the return traffic on any route is too great for the vehicle allocated to it the driver advises the Orleans centre by telephone and other vehicles are allocated from a reserve pool. Vehicles can also convey mixed loads of S.N.C.F. and other traffic, provided space is available and the interests of the S.N.C.F. do not suffer. By means of this co-ordinated service some 90 localities around Orleans are being served and have been given a service which they did not previously possess.

NORWAY

State Railway Results for 1952

Traffic in 1952 was satisfactory, despite a slight drop in goods traffic. The difficult financial position of the State Railways is stated to be caused by statutory inability to fix charges on a commercial basis. A general increase

in charges would cause loss of traffic, but the continued rise in expenditure has increased the deficit. For 1952 estimated receipts were Kr. 375 million and expenses Kr. 435 million.

Passenger traffic between Oslo, Gothenburg, Copenhagen, and beyond never increased in the summer of 1952, and during the year increased generally over the system. To promote off-season traffic, reduced rate holiday tickets giving a 50 per cent reduction on the return journey after the seventh day were issued, valid at various off-season periods of the winter and early and late summer. Ordinary fares were raised 5 per cent in May, 1952.

Certain freight rates were raised between 5 and 15 per cent in April and all rates in May of last year.

WESTERN GERMANY

Reconstruction of Speyer Station

The first section of the new station building at Speyer in replacement of that almost wholly destroyed in the war has been brought into use after a construction period of just over a year. The financial situation of the Federal Railways has imposed a rather austere

design not lacking in dignity. The main hall has an area of over 1,900 sq. ft. and is well lighted by a dome-shaped skylight. Booking office, luggage office, cloakrooms and other offices are arranged in a strictly functional layout. Waiting rooms, restaurant and certain other premises are due to be completed by the end of this year.

Lower Wagons-Lits Supplements

The supplements for use of the sleeping cars of the Cie. Internationale des Wagons-Lits through Germany have been reduced. Thus between Flensburg, the Danish-German, and Basle, the German-Swiss frontiers, reductions are 18 per cent for first, 25½ for second, and 30 for third class sleeping berths. The principal beneficiaries are travellers in transit from and to Scandinavia.

Eight-Seat Buses

The Essen Directorate of the Federal Railways is now operating during off-peak hours four new, eight-seat buses on the Paderborn-Soest, Paderborn-Büren, and Geseko-Hiddinghausen routes. The fuel consumption is stated to be about 24 miles to the gal. The buses have a 25-h.p. engine and can reach a speed of 50 m.p.h.

Publications Received

London County Council Survey of London. Vol. XXIV: Kings Cross Neighbourhood (Parish of St. Pancras, Part IV). London: The London County Council, The County Hall, S.E.1. 11½ in. x 9 in. x 1 in. 181 pp. 96 plates. Price 35s.—This volume of the comprehensive survey (mainly from the architectural viewpoint) undertaken by the L.C.C. in 1894, is of railway interest as covering both Kings Cross and St. Pancras Stations. The view is expressed that the coming of the railway "like a great earthquake" broke up 50 years of orderly development of streets and squares in the Bloomsbury tradition, but pre-railway building to the north of the Euston Road, as shown in the contemporary maps reproduced, does not fully support this contention. The introduction of the system of laminated wood arched trusses at first used to carry the glazed roofs of Kings Cross Station is credited to Colonel Emy, a French military engineer. The design of the façade is stated on the dust jacket (but not in the text) to have been copied from the Riding Stables of the Tsar. Sir Gilbert Scott's design of St. Pancras Station Hotel—the winner of an open competition in January, 1866—is treated kindly. The whole Survey is a generously-annotated work of reference which should not be ignored by railway writers.

Matisa Review, No. 2, February, 1953 (edition in English), London: Matisa Equipment Limited, 78, Buckingham Gate, S.W.1. 9½ in. x 6½ in. 29 pp. Illustrated. Paper covers.—This informative booklet contains a number of

fine photographic and line-drawing illustrations depicting Matisa equipment for mechanical and shovel packing, ballast cleaning, and wrench drilling, and track-laying machines. The text argues the case for economical mechanical maintenance of track and describes the scope and work of the various items of plant supplied by the company. There is also an article on ballast and the necessity for a resilient roadbed together with distribution of the loading over the bed by various ballasts. Labour and equipment organisation for tracklaying is another subject dealt with.

Information for Business Travellers.—New booklets in the "Hints to Business Men" series issued by the Board of Trade cover Austria; Ceylon; Cyprus, Gibraltar, and Malta; Iraq; British West Indies and Bermuda; Mozambique and Angola; the Philippines; Norway; and Sweden. Each booklet gives details of travel facilities, Customs and trading regulations, and addresses of United Kingdom commercial representation.

Bakelite Laminated Gears.—Constructional and technical details of Bakelite laminated gears are given in an illustrated book issued by Bakelite Limited. The gear material consists of laminations of woven fabric impregnated with synthetic resins and fused under heat and pressure into a homogeneous board with physical properties particularly suitable for transmission gears. The laminated materials are suitable for spur, bevel, internal, helical and herringbone gears and also for worm-wheels. Also included in the book are

formulae for determining horsepowers and keyway stress and a series of tables which gives preferred pitches for transmitting different horsepower.

Coloured Lamps and Tubes.—A new leaflet issued by the General Electric Co. Ltd. gives details of coloured filament lamps and fluorescent tubes for display lighting. The filament lamps are G.L.S., sign, pygmy, and architectural types. Suitable fittings and holders, including thermic flasher adaptors, are listed. The fluorescent tubes are in 4 ft. and 5 ft. lengths, and are available in red, white, blue, green or yellow.

Tool Tipping and Welding Booklets.—The Suffolk Iron Foundry (1920) Limited, of Stowmarket, has issued completely revised editions of its booklets "Tool Tipping" and "Brazing and Low Temperature Welding of Aluminium by 'Process 36'." Copies are available free on application to the company and form part of the Technical Advisory Service which is offered to all seeking advice on welding problems.

Soldering Materials for Aluminium.—Soft soldering is one of a number of methods of joining aluminium, and the Metals Division of Imperial Chemical Industries Limited has recently issued an illustrated booklet in respect of jointing technique with the use of Kynal solders and flux. Kynal solders are available on spools of 1 lb. net weight and in 18 in. straight lengths, and in three grades, S15, S25, S35, each being recommended for specific purposes. Kynal soldering flux is supplied ready for use in 2 oz. and 4 oz. polythene containers and 1 lb. glass jars.

Front-End Development of Locomotives

Design considerations for improving steaming qualities

By M. Han, Dipl. (Eng.), A.M.I.Mech.E., A.M.I.Loco.E.

THE locomotive smokebox can hardly be regarded as a highly perfected piece of equipment to do the work for which it is intended. This view is supported by the fact that conflicting ideas still exist as to the best arrangement, choice of type and size, and general design and proportions of each unit that is considered essential in the construction of an orthodox type of smokebox.

For instance, opinions still differ on the relative advantages and disadvantages of single and multiple blastpipes, and although some advantages are claimed for each type, available information does not precisely indicate how far and under what circumstances one is better than the other. As a result we find engines with either single or multiple blastpipes, but their superiority over one

spark screens also creates conflicting views. Yet, it has been most confidently claimed² that locomotives fitted with properly proportioned baffle plates steamed better than those without them. Furthermore³, experiments confirm the view that the absence of self-cleaning arrangement is a weakness conducive to losses of heat in the form of escaping cinders and sparks.

These favourable views are shared in general by the writer of this article who has had the opportunity of running locomotives with and without such plates and screens. The secret of their success depends, as already mentioned, upon the adoption of proper proportions for the vertical plate, deck plate, baffle plate and the spark screen similar to the American Master Mechanic's

about by the self-cleaning plates, relevant explanation does not seem to exist to account for the realisation of improved steaming. It is understood that in America the baffle plate started as part of a spark arrester and later improvements perfected the design to effect better steaming. In this country spark plates were used to some extent but they served only one purpose and further refinements did not follow to improve steaming. Such single-purpose plates are still fitted to some engines in service, and their failure to achieve this important aspect will be discussed later.

Provision of self-cleaning baffle plates has the effect of adding a further refinement which has been lacking in the orthodox type of smokebox from the early periods of its adoption. It helps to develop a fuller achievement of the major function of the smokebox as a draft-producing ejector unit by ensuring a freer flow of the exhaust steam during its short, but nevertheless, vital course. In short, it transforms the long-established arrangement of the traditional smokebox into a more efficient unit in which exhaust steam and flue gases are rendered to develop a more orderly, uni-directional and mutually-assisting flow as distinct from the customary disorderly, chaotic and counter-destructive flow. To appreciate this point it is necessary to recount some of the widely accepted theories connected with the smokebox vacuum.

Design of Smokebox

The fundamental aim in the design of a smokebox is the creation of a reasonable and consistent vacuum in order to draw sufficient air through the fire bed to promote proper combustion and ensure dependable rates of steaming. The degree of vacuum is influenced by one or the other, or a combination of some of the following causes: proportions of blastpipe and chimney, strength and continuous or intermittent nature of the blast, amount of cut-off and regulator opening, thickness and nature of the fire bed, and quantity and route of entry of air.

In actual practice under conditions of average speeds, the blast is more continuous than intermittent, and the consequent application of shorter cut-off or, in some cases, partially opened regulator, produces a rather low degree of vacuum which is sometimes too weak to raise the necessary amount of steam at a desired rate. This weakness is generally cured by sharpening the exhaust blast either with a reduced orifice diameter, with the provision of Goodfellow tips, or in some cases, by the adoption of multiple exhaust jets.

All these remedies unfortunately have the adverse effect of increas-

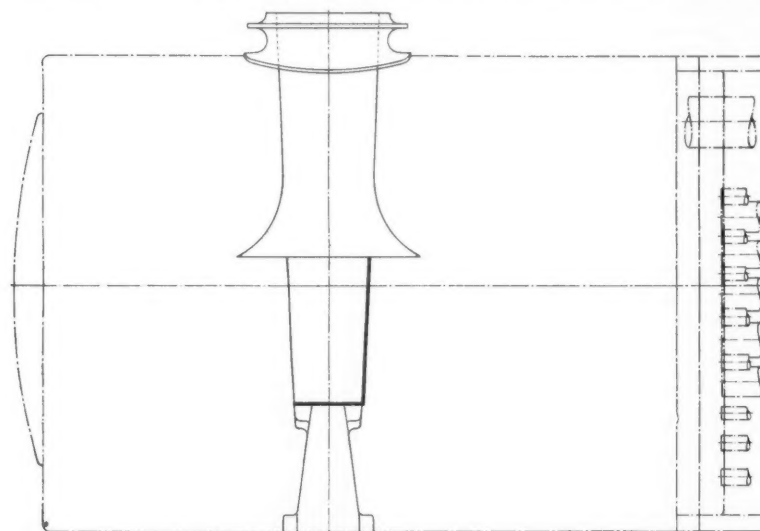


Diagram showing protective shroud for steam cone

another, both from economic and performance point of view, is still very obscure.

Design Approach

Similar vagueness prevails regarding the most efficient size, profile and general proportions of the single blastpipe in relation to other accessories. Since many theories exist on this matter, a different approach is made by designers in arriving at the solution, and one must expect different results from proportions evolved by various designers. Cases of blastpipe alterations to improve steaming qualities have been known, and an interesting example is provided by the scientific experiments carried out and modifications effected to the former L.M.S. class "2," 2-6-0 mixed-traffic locomotive in 1950¹.

The use of self-cleaning plates and

front end. The writer, however, is of the opinion that the use of self-cleaning plates should not necessarily require the provision of spark screens.

Whereas the self-cleaning baffle plates force the flow of flue gases through the restricted space arranged in the lower regions of the smokebox thereby sufficiently increasing the average gas velocity to pick up and carry away the ashes and soot, the spark screens tend to nullify this phenomenon besides further lowering the degree of smokebox vacuum. Thus it seems desirable to fit spark screens only when special circumstances indicate the need for arresting sparks and not as an inseparable accessory to the self-cleaning plates.

Concentrating our attention on the dual improvements, viz., improved steaming and self-cleaning, brought

ing the cylinder back-pressure and reducing the engine power, and are therefore regarded by many as necessary evils improvised at the expense of another vital characteristic of the locomotive.

Now, if we consider the conditions inside the ordinary smokebox under normal working conditions, it is easy to visualise the chaotic and turbulent encounter between the flue gases and the exhaust steam. The flue gases possess mass and velocity, and upon leaving the tubes enter the smokebox in the form of numerous high-speed jets sharply at right-angles to the flow of exhaust steam. The exhaust steam cone is thus severely and continuously disturbed, constrained and paralysed, and the resultant vacuum it continues to create, is only due to a very small proportion of its highly sapped energy, which, as mentioned above, has to be boosted up sometimes by the employment of a sharper blast through various devices.

The fact that the exhaust steam cone is greatly constrained during its short but very important course through a destructive pile of turbulent flue gases will be understood better by reference to photographic illustrations contained in the paper "Locomotive Boiler Design," Louber and Cox.¹ These photographs, although taken under artificial conditions with the locomotive stationary, smokebox door open and live-steam issuing from the blastpipe,

clearly indicate the wide departure of the exhaust steam cone from the one primarily established by the blastpipe orifice, and reveal the formation of a secondary cone of reduced taper a little higher up. In actual practice, however, the constraint and deformation imposed upon the exhaust steam cone is much more severe and destructive as the impact of flue gas jets is concentrated on the same side.

This barrage action almost amounts to "sweeping the exhaust steam off its course," and no theoretically derived blastpipe orifice would satisfactorily establish anything approaching the ideal drafting conditions as envisaged by the designers. The basic requirement is therefore the provision of an adequate protection for the exhaust steam cone to perform its task with the minimum of interference. This requirement is satisfactorily fulfilled with a well-proportioned self-cleaning plate which completely shields the exhaust steam from direct impact of the flue gases, and, in addition, diverts the latter downward to approach the steam cone in an upward uni-directional flow preserving the capacity of the exhaust steam as a drafting agent. It can be seen how the single-purpose spark plates, because they do not run right across the smokebox, produce side impacts still sharply at right angles to the steam cone. Hence they do not improve steaming.

As an alternative to the self-cleaning

plates, but in the form of a necessary piece of smokebox equipment where self-cleaning is not considered essential, a simple device to ensure proper drafting conditions is, in the writer's opinion, a "protective shroud" for the exhaust steam cone. It should be a divergent cone of the same taper as the steam cone but made slightly larger to prevent interference with the flow of the steam. When mounted on the blastpipe, as shown in the diagram accompanying this article, it should be of sufficient height to afford maximum protection while permitting the free entry of flue gases which should then have only an upward flow favourable to the exhaust steam. A few simple trials will certainly solve the exact nature of this protective shroud, and this will probably contribute more towards better steaming than many inventions produced with the help of elaborate empirical formulae.

References

¹ Journal No. 217, the *Institution of Locomotive Engineers*, page 521. "Locomotive Testing on British Railways." D. R. Carling.

² Journal No. 144, the *Institution of Locomotive Engineers*, page 419. "Locomotive Boiler Design." Louber & Cox.

³ Proceedings of the *Institution of Mechanical Engineers*, March, 1908, page 310. "Combustion & Heat Balances in Locomotive." L. H. Fry.

⁴ Journal No. 144, the *Institution of Locomotive Engineers*, pages 429-431.

Inspection Pit Lighting at London Midland Locomotive Sheds

Design of fitting to exclude grease and water

FLUORESCENT pit lighting is one of the improvements being introduced at London Midland Region engine sheds when they fall due for re-roofing and rebuilding. In designing a fitting for this programme, to which reference was made in our April 24 issue, special attention was given to withstanding the exacting conditions to which it would be subjected. Precautions were necessary against the risk of the glass being broken by tools wielded in the confined space of the pit, or obscured by dripping oil, grease and water; and the whole fitting had to be watertight, without complicating the removal and replacement of the front cover for access to the interior.

The fitting adopted in the majority of the installations completed and programmed was manufactured by Falk, Stadelmann & Co. Ltd., to the requirements of L.M.R. engineers. It consists of a main body of cast silicon aluminium alloy, housing a 5 ft. 80 W. fluorescent lamp, reflector and instant-start control gear. It was necessary to provide maximum upward light without using an inclined front glass, which was considered more liable to breakage. The lamp is therefore located in the lower part of the fitting in front of a specially-contoured reflector.

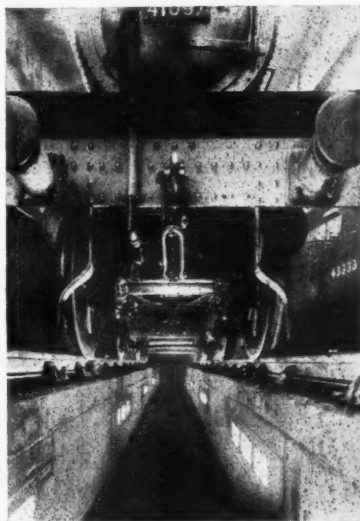
The front cover is flush with the pit wall when the fitting is in position, and is secured to the main body by 14 captive bronze bolts. An acid-resisting, rectangular section, extruded rubber compound gasket is compressed when

the holding bolts are screwed down tightly and seals the joint.

Three panels of $\frac{1}{4}$ -in. toughened plate glass are secured in the front cover by a special form of cement in conjunction with glazing bars. An upper lip is provided to prevent the accumulation of oil and dirty water on the gasket and assist in keeping the jointing surface clear of dirt when the front cover has to be removed.

The cranked box type spanners provided for tightening or loosening the cover holding bolts are threaded at the handle end so that they can be used as handles for easing the cover away from the body and lifting it clear. Dowels are provided to assist in locating the cover for replacement.

The reflector is secured by two threaded studs and knurled nuts, and carries the clips in which the lamp itself is located. Compartments at each end of the fitting house the instant-start control gear. In installations so far, the fittings have been mounted at 9-ft. centres in blocks of seven, the facing rows being staggered for uniformity of lighting. Each block serves about 42 ft. of the pit, which is sufficient for the principal items under inspection to be attended to without moving the locomotive.



Typical shed installation

Air-Conditioned Trains for Queensland

*First official run of the "Inlander"
between Brisbane and Toowoomba*

THE Queensland Government Railways are introducing air-conditioned services on their 3 ft. 6 in. gauge main line, and the first of these trains, the "Inlander," made its first official run on February 1 last, between Brisbane and Toowoomba, headed by a diesel-electric locomotive built by General Electric (U.S.A.).

Each train will consist of a number of cars of all-steel construction, normally not more than 13, including the power car, and will consist of sleeping and seating accommodation for first and second class passengers and a dining car, together with a luggage and brake van as shown in the accompanying diagram. The rolling stock is being built by Commonwealth Engineering (Qld) Pty. Ltd. to the requirements of

the Queensland Government Railways.

Principal dimensions are as follow:—

Power car, length over body ...	50 ft.
Passenger carriages and vans, length over body ...	55 ft. 6 in.
Width over body, all stock ...	9 ft.
Tare weights:—	
Power car ...	38 tons 6 cwt.
First class, with sleeping accommodation ...	31 tons 17 cwt.
First class, with seating accommodation ...	31 tons 16 cwt.
Second class with sleeping accommodation ...	31 tons 19 cwt.
Second class with sleeping accommodation with conductor's compartment ...	31 tons 7 cwt.
Second class with seating accommodation ...	31 tons 11 cwt.
Dining car ...	33 tons 9 cwt.
Composite with seating accommodation ...	31 tons 9 cwt.
Luggage van ...	23 tons 16 cwt.
Brake van ...	27 tons 8 cwt.

The train is constructed to give

smooth continuous lines; the exterior colour scheme is in light grey with a glacier-blue band 12 in. deep immediately above the windows the full length of the train. The roof is finished a blue grey, while the waist, lintel, and conrail mouldings are in bronze yellow. Each passenger car has an illuminated indicator adjacent to the entrance doors giving the class of accommodation and car number.

The passenger stock and vans are of all-steel construction. Main members, underframe, side and end frames and roof, are joined together to form the complete body in the shape of a box girder. The vestibules between the carriages are covered. Automatic couplers and friction drawgear are fitted, with cushioning comprising a

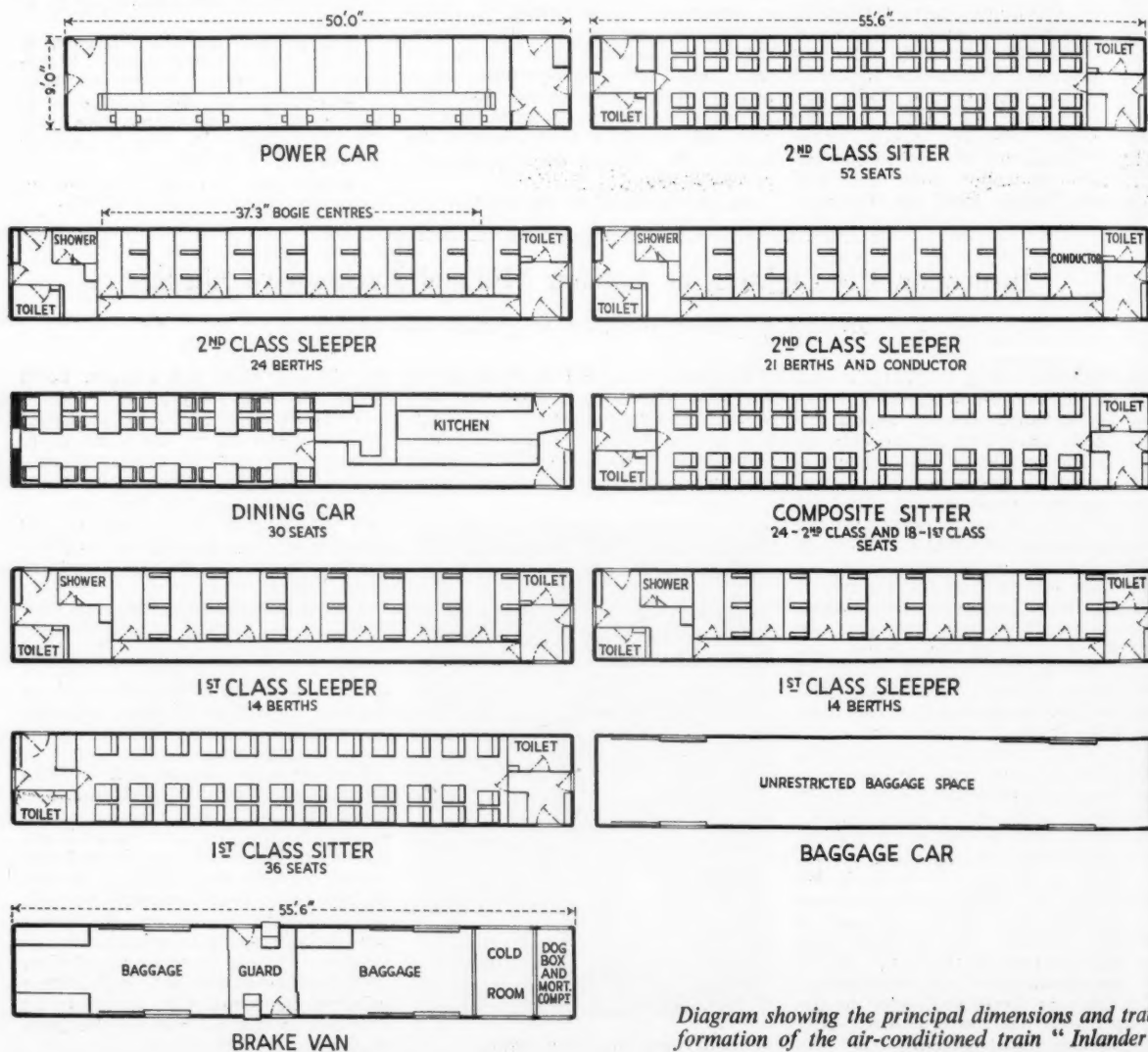


Diagram showing the principal dimensions and train formation of the air-conditioned train "Inlander"



The Queensland Railways first air-conditioned train "Inlander" leaving the maker's works on being handed over to the railway

series of rubber mats on springs at the rear of each coupler.

The cars are mounted on lightweight bogies of the latest fabricated steel design; laminated and helical springs are fitted. Suspension has been arranged to eliminate uneven side and vertical movement, and harsh riding is further reduced by the addition of shock absorbers. Care has also been taken to reduce the transfer of impact shock and noise, by the use of resilient rubber mountings; British Timken taper roller bearings are fitted to all axles.

The body of the passenger stock is insulated against heat and sound, and the floors are of sheet-metal of dove-tail shape, the underside of which is sealed and treated with a sound deadening compound. Above the flooring is a layer of Rubbatex mixed with granulated cork, and laid to a depth of 1 in.; on top of this is a layer of treated Masonite hardboard $\frac{1}{8}$ in. thick, together with linoleum and carpet.

Sprayed asbestos is applied to the body sides and roofs; the body panels

are also lined with three layers of kapok fireproof insulation secured by suitable adhesives, all of which reduce noise, maintain a low rate of heat transfer, and enables the air-conditioning to maintain a comfortable temperature under the varying climatic conditions experienced on the Queensland Railways.

Windows are of the fixed double-pane type having $\frac{1}{4}$ in. thick clear glass on the outside and $\frac{1}{4}$ in. thick armour plate glass on the inside. The air entering the sealed cavity between the panes is cleaned and hydrated to prevent the ingress of moisture and dust into the compartments.

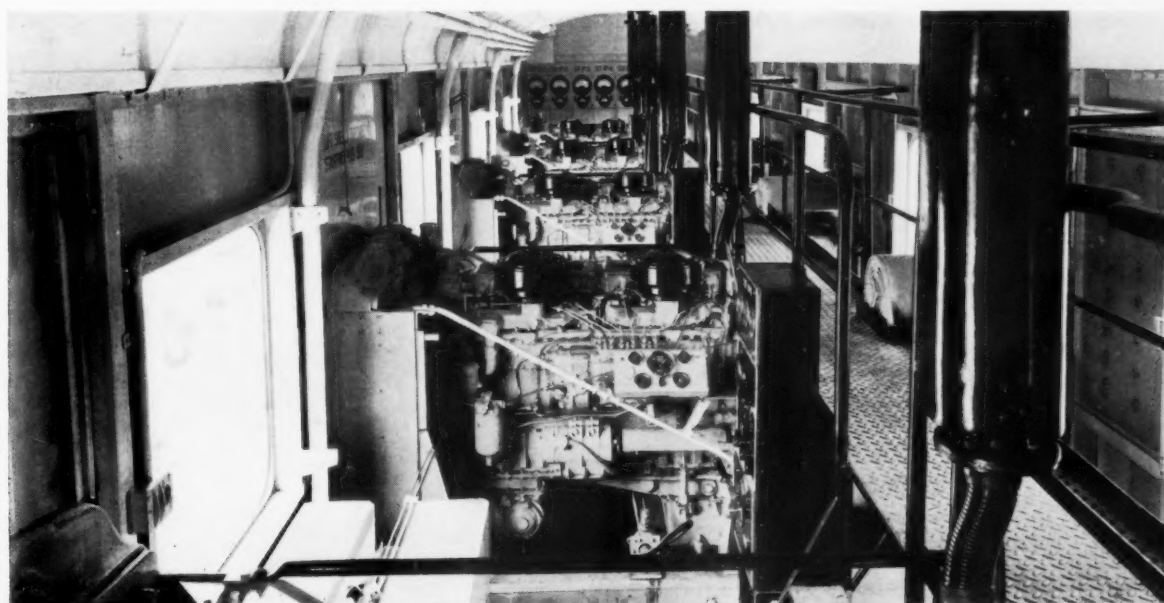
Air-Conditioning

Air-conditioning equipment is installed in each car and comprises a refrigerant compressor and condenser unit mounted on the underframe, together with an air-conditioning unit in the roof, through which filtered air is drawn and recirculated with a predetermined quantity of filtered fresh

air, the air being delivered through a duct mounted between the outer roof and the ceiling.

Two types of conditioned air discharges are used. That in the sleeping cars distributes air to each compartment through a multivalent panel in the ceiling. By an arrangement of valves, air to the correct amount is delivered with minimum velocity, and is exhausted through a door grill along the leading end of the car, where a portion is discharged to the outside through the toilet and shower compartments. The remainder returns through a grill in the ceiling, and passing over a bank of viscous oil filters, is mixed with fresh filtered outside air before beginning a new cycle.

The second type of air discharge is applied to the sitting and dining cars, in which two longitudinal aluminium mouldings are fitted on each side of the ceiling panels and connected to the air supply duct. Part of the air after circulation is returned through grilles mounted close to the ceiling in one of



Interior of the power car showing the catwalk and plant layout



Interior of the dining car looking towards the kitchen end

the bulkheads, and passed through filters for recirculation. The remainder is passed through door grilles into the toilet compartments and exhausted through roof grilles into atmosphere.

In the case of the dining car, part of this air is carried through the kitchen and exhausted by extractor fan above the electric cooking stove. Control of relative humidity is maintained between 50 per cent and 70 per cent, with maximum and minimum temperatures of 80° F. and 70° F. respectively. Provision is made for heating if necessary by electric heaters.

Interior Construction

The interior of the passenger stock is composed mainly of a steel framework panelled with aluminium sheeting. Doors and flat ceiling panels are of aluminium-faced plywood specially sealed at the edges. The panelling is covered with a cloth-backed P.V.C. plastic which is applied by a suitable adhesive; the edges are covered by aluminium beading. The plastic is in

contrasting colours to tone with the various colour schemes.

The interior colour schemes were specially developed for the Queensland Government Railways by the Consulting



Interior of the first class sitting car showing the arrangement of seating



First class compartment of sleeping car arranged for day use

Architects, Professor R. P. Cummings and Mr. Athol Bretnall. In all, twelve colour schemes have been used for interior decoration, all of which provide a pleasing variation. Adjustable venetian blinds of a plastic material are fitted in the passenger compartments, and roller blinds are also fitted in the sleeping cars. Wilton carpets are laid, of a leaf pattern in brown and green shades which were developed for the railways exclusive use.

Fittings and Lighting

Vestibule floors are covered with a hard rubber of marble pattern and the toilet and shower compartments are of terrazzo tiles set in Rubbatex with green surrounds. The panelling in the toilets is finished cream and the ceiling a glossy white. The shower compartments are composed of stainless steel panels; a plastic wax cloth is also provided. The shower supplies hot and cold water and has a thermostatic mixer which maintains water at the desired temperature.

The sleeping cars have hot cathode

fluorescent lighting with individual berth lights. Illuminated indicators are fitted in the corridors together with fluorescent lighting from cornice fittings; similar lighting is also provided in the toilet compartments. Fluorescent and individual lighting is fitted in the other carriages. All light fittings are finished in satin nickel metal work with diffusers of Perspex suited in colour to the individual decorative scheme. In the event of an interruption in the normal power supply, emergency lighting from batteries under each carriage is provided.

The first class sleeping cars provide accommodation for 14 passengers in seven compartments. The seats are upholstered in a combination of spring nests and Dunlopillo covered in Vynide and the backrest, released by a catch, makes the lower berth. The upper berth is immediately above and is supported in the horizontal position by stop brackets and a safety strap from the ceiling. The beds are made up on 4 in. Dunlopillo mattresses; bed linen is provided.

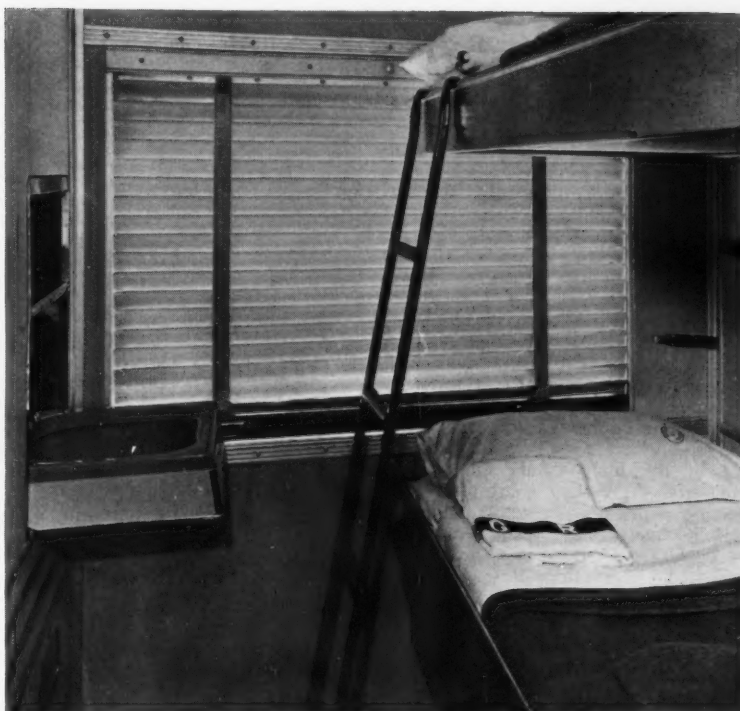
The equipment includes two wardrobes with full-length mirrors behind the doors, and a removable writing table which can be attached to the centre of the wardrobe. A toilet cabinet is provided beneath which is folded a wash-basin fitted with a hot and cold water supply. The bowl is of Perspex. A refuse container is also provided, and fittings include ashtrays and stainless steel trays mounted flush with the partition. Ample luggage room is provided.

The second class sleeping cars have accommodation for sleeping 24 passengers, except where a conductor's compartment is arranged, in which case 21 passengers are accommodated. The compartments are somewhat similar to the first class cars except that wardrobes and toilet cabinets are not provided and the berths comprise the seat itself. The middle berth comprises the backrest of the seat, and a 4-in. mattress is provided in this case.

The first and second class composite sleeping cars provide accommodation for 17 passengers, and are similar to the other sleeping cars of the respective class. Equipment common to all stock is the provision of a water cooler and a dispenser with paper drinking cups, which may be disposed of through a refuse chute below the faucet; all sleeping cars have a toilet at each end.

The first class sitting carriages are of the open saloon type with gangway; accommodation is provided for 36 passengers in single and double seats. Toilet compartments and luggage racks are arranged adjacent to the vestibule entrances. The saloon is carpeted and all seats other than those near the rear bulkhead rotate and recline. Card tables are available for use between the seats when reversed to face each other. Racks for light luggage run the full length of the compartment.

The second class sitting carriages have accommodation for 52 passengers. The layout is almost identical with that of the first class other than the seating arrangements. The composite sitting carriages have accommodation for 18



First class compartment of the sleeping car arranged for night use

first class and 24 second class passengers. A partitioned door divides the two sections.

The dining saloon seats 30 passengers, and entrance is by sliding door; the partition and door are in walnut pattern Formica panelling, the bulkhead and door at the kitchen end are similarly finished except that a stainless steel grille is fitted at the top of the partition. Concealed, continuous fluorescent lighting of slightly lower intensity is provided.

The kitchen end is divided into two sections, kitchen and pantry. The equipment is composed mainly of stain-

less steel and includes refrigerators, hot presses, cabinets, storage racks and so on. The oven unit is also of stainless steel and is divided into three sections, each of which is insulated and thermostatically controlled by regulators on a switch panel. The top of the unit has eight rectangular heater plates, each independently regulated.

Power Car

The electric power required is generated in the power car placed adjacent to the locomotive. Three-phase, 415 V. alternating current is supplied and distributed through the train by continu-



Exterior view of the second class sleeping car showing the air-conditioning grilles in the roof

ous mains. Five 60-kW. Meadows diesel engine alternator sets are installed transversely in the power car, and access for maintenance and operation is by means of a catwalk. An insulated compartment containing storage space, workbench and indicator panel is situated at the trailing end.

For normal operation only three sets are required. Sufficient fuel is carried in the power car for running between Brisbane and Cairns, a distance of some 1,043 miles, without refuelling. Large access doors are provided in the body side through which the generating sets can be removed for servicing.

The baggage car and brake van bodies are similar in construction to the passenger stock. The baggage car has three sliding doors to facilitate loading, side loading lights are fitted on the outside of the body. Side louvres are fitted and the ceiling is of mild steel sheeting painted white, while the floor is of chequered plate; seven centre ceiling lights are provided and the interior is painted a cream finish.

The brake van is equipped with an emergency tool kit, fire extinguisher, stretcher, first-aid kit, toilet, and other facilities. The finish of the interior is similar to the baggage car. The roof is insulated with layers of Tropal and kapok, and the bulkheads and doors are insulated with Onazote approximately 3 in. thick. Dunlopillo seats are provided, and mirror reflectors which may be set at any desired angle are fitted, in addition to guards look-out windows. The

following is a list of United Kingdom and Australian contractors who supplied materials for the new stock:—

United Kingdom Contractors

External plugs of sockets	A. Reyrolle & Co. Ltd.
Main cables	Pyrotex Limited
Light fittings	Holophone Limited
Selector switches	Santon Limited
Air-conditioning equipment	J. Stone & Co. (Deptford) Ltd.
Tubular heaters	Wardle Engineering Co. Ltd.
Formed steel sections	Metal Sections Limited
Indicator bolts	Wm. Newman & Sons Ltd.
Shock absorbers	Newton & Bennett Limited
Carline members	John Thompson Motor Pressings Limited
Screws	Guest Keen & Nettlefolds Limited
Metal faced plywood	Venesta Limited
Panels, tables and doors	Flexo Plywood Industries Limited
Diesel alternator sets	Henry Meadows Limited
Interior air grilles	F. H. Biddle Limited
Anti-friction facings	Perodo Limited
" " "	British Belting & Asbestos Limited
Asbestos insulation	Bells Asbestos and Engineering Limited
Taper roller bearings	British Timken Limited
Glass	Pilkington Bros. Ltd.
Blind rivets and tools	Aircraft Materials Limited
Heat insulation	Expanded Rubber Co. Ltd.

Australian Contractors

Lighting fittings	General Electric Co. Ltd.
Kitchen stove, Bain Marie, and hot press	Sterlec Limited
Water, tea, and coffee urns	Noyes Bros.
P.V.C. wall and seat covering	Plastic Coatings Limited
Rotating and reclining seats	Commonwealth Engineering Co. Ltd.
Curved plywood ceiling panels	Ralph Symonds Limited
Tropal body insulation	C. C. Mortimer
Composition and rubber flooring	Forbes Rankin & Co. Ltd.
Dining car refrigerators	Chandlers Pty. Limited
Water cooler units	Kelvinators Limited
Braking, and water raising gear	Westinghouse Brake (Aust.) Pty. Ltd.

Fabricated bogies	...	Evans Deakin & Co. Ltd.
Castings and forgings	...	Queensland Electric Steel Bunsdaberg Foundry
Doors, locks and non-ferrous fittings	...	Mars Machine Tools Hill Plane Pty. Ltd. Leembruggen Hoskins & Spence
Stainless steel cupboards and sinks	...	Radaire Industries Barnes Engineering Wunderlich Limited
Aluminium window frames	...	Queensland Metal Windows
External grills	...	Queensland Metal Windows
Fuel and water tanks	...	R. Beaumont
Perspex toilet components	...	Plastic Products
Rubber components	...	N.A.R.M. Limited
Stainless steel panels, tubes and rod	...	General Rubber Company Dunlop Rubber Co. Ltd. Commonwealth Steel Company
Aluminium panels and extrusions	...	Australia Aluminium Company
Wheels and axles	...	Commonwealth Steel Company
Steel sections, sheets and plates	...	Broken Hill Pty. Ltd.
Tcilet hoppers	...	Dinmore Pottery Company
Bogie springs	...	Pioneer Spring Company
Steel tubes	...	British Tube Mills
Automatic couplers and friction drawgear	...	Industrial Steels Limited
Water fittings	...	Cistern Manufacturing Company
Carpets	...	R. E. Cunningham
Paint	...	Taubmans
Die castings	...	Extons Pty. Ltd.
Interior springs	...	Metal Products
Seat springs	...	F. Adams
Anodizing	...	National Mail
Terrazzo and Ironite floors	...	A. L. Petrie
Machined screws	...	A. W. Bonham
P.V.C. cable	...	A.P.I. Insulation
Self seating rubber sections	...	Silverwater Rubber Company
Steam piping and copper tubes	...	Stewarts and Lloyds Limited
Mirrors	...	Sydney Glass Company
Bronze extrusions	...	Extons Pty. Ltd.
Scud and deadener	...	Austral Bronze Pty. Ltd.
Adhesives	...	Emoleum Limited
Venetian blind laths	...	Behr Manning
	...	Pain Manufacturing Company

Rehabilitation of Euston Great Hall



A new layout and modernised accommodation for waiting passengers, with illumination nearly up to daylight conditions, were brought into use in the Great Hall at Euston, L.M.R., in time for the Coronation

New Works at Nantes, S.N.C.F.

An elaborate project, begun before the war, to abolish level crossings on the main line through the city



New bridge carrying Rue Chevreul over line near Chantenay Station

THE city of Nantes, a busy industrial, shipping, and railway centre of 200,000 inhabitants in southern Brittany, has long suffered from road traffic congestion caused by the fact that the line built by the former Paris-Orleans Company, part of the route from Paris to St. Nazaire, Le Croisic and Quimper, runs through the city close to the quays along the River Loire. This course was chosen to facilitate transshipment between wagons and ships. When road motor vehicles began to compete for freight transport the advantage of such access was greatly lessened. In traversing the city from Nantes-Orleans Station on the east to Chantenay Station on the west there were seventeen level crossings which were a constant obstacle to street

traffic, holding up public and private transport and giving rise to frequent accidents.

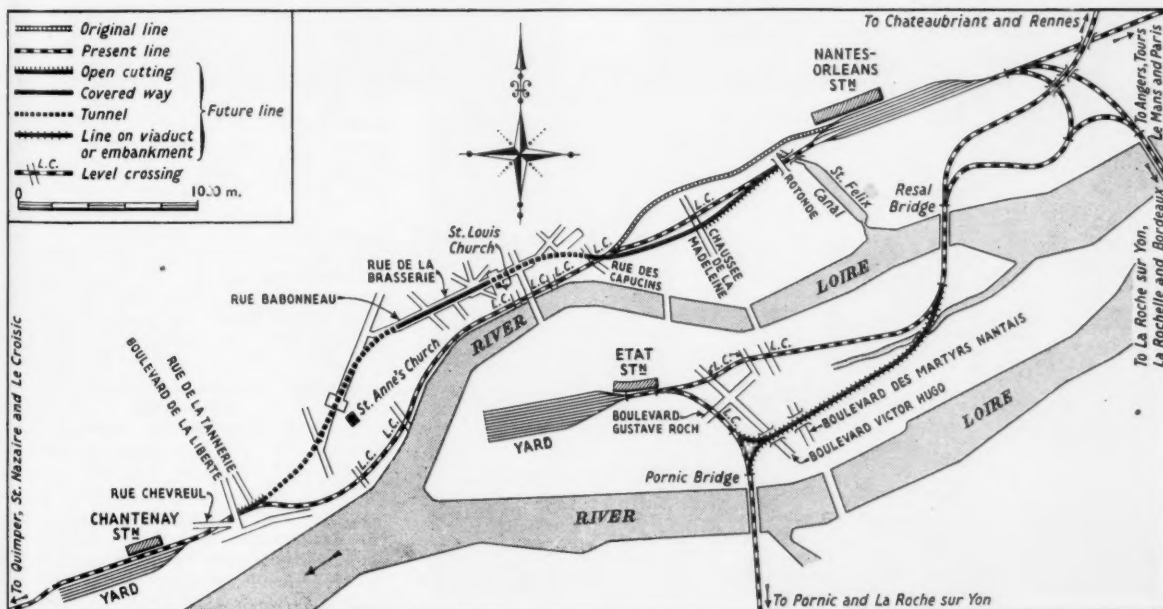
Insistent demands were therefore made for the abolition of all level crossings within the city, not only on the Paris-Orleans line but also on the French State Railway lines running from south of the Loire into Nantes-Etat terminal station. Ultimately, agreement was reached on a plan to divert the Paris-Orleans line to a new course farther north and place it below ground level in open and covered cuttings and tunnels. This plan was facilitated by the fact that the city council had undertaken to fill up two old channels where the Loire had formerly flowed, enabling part of the line to be laid in one of the beds.

Work was begun in 1936, the last year of the independent existence of the Paris-Orleans Company, and was continued by the newly formed French National Railways. Contributions to the cost were promised by the State, the Department of Loire-Inférieure, Nantes Chamber of Commerce, and Nantes City Council. Operations proceeded intermittently until 1942 as credits were made available, but the work was subject to stoppages caused by strikes before the war. The war and the German occupation brought work to a standstill for several years.

First Section

In the original plan the work on the new line was divided into eight sections. In the first section, immediately outside Nantes-Orleans Station, the tracks were deviated slightly to the left, a railway bridge was built over the St. Felix Canal and a new elevated road bridge carried over the railway at the Rotonde. This work was carried out in 1940 and 1941. Provisional tracks were then laid down in the old bed of the Loire parallel to the course, of future cuttings, one open on a down gradient as far as the Chaussée de la Madeleine and the other a covered cutting as far as the Rue des Capucins. From there a 512 m. tunnel, on which work was resumed in 1946, takes the new tracks to the church of St. Louis.

From St. Louis Church a covered cutting extends for 430 metres to the Rue de la Brasserie, followed by an open cutting 208 metres long to the Rue



Existing and projected lines at Nantes



Piers for viaduct to carry deviated line between Nantes-Etat and Nantes-Orleans Stations

Babonneau. It was in these two cuttings that the first work on the new line began in 1936. Later the covered cutting was adapted to serve as an air raid shelter. From the Rue Babonneau the 1,183-m. Chantenay Tunnel passes under the high ground on which stands St. Anne's Church to the Rue de la Tannerie. Work is still being carried out in this tunnel.

In the last section the line emerges from the long tunnel into an open cutting and passes under a double bridge built in 1940-41 to carry the Boulevard de la Liberté and the Rue Chevreul over the line just before Chantenay Station.

No unusual engineering difficulties were encountered during the progress of the works, but in some sections tramways, and water, gas, electricity, telephone and sewer conduits had to be displaced. In the covered way beneath the Rue de la Brasserie two underground streams caused some trouble. Their courses were deepened and a syphon system established for each. In the



Eastern entrance to Chantenay Tunnel



Cutting leading into covered way under Rue Babonneau, looking towards Nantes-Orleans Station

transfer of the tracks to the old bed of the Loire some plots of ground were made available and were used for improving street traffic movement. When the line is removed from the quays much land will be freed for town planning.

Deviation of Nantes-Etat Line

The improvement of the line connecting Nantes-Etat Station with Nantes-Orleans has meant a diversion of the tracks to the south to abolish three level crossings. The new line leaves Nantes-Etat in the direction of Pornic, rising on reinforced concrete decks. After crossing the Boulevard Gustave Roch it bears away from the Pornic line, passes over the Boulevard Victor Hugo and the Boulevard des Martyrs Nantais and then

runs on to an embankment built on vacant land. The old line is rejoined just before it crosses the Resal Bridge over the Loire to run into Nantes-Orleans Station. Trains coming from Nantes-Orleans Station will be able to avoid Nantes-Etat Station by taking a spur from the Boulevard Victor Hugo Bridge which joins the Pornic line just north of Pornic Bridge. Although the work on the Nantes-Etat line is on a smaller scale, it is also less advanced. Most of the reinforced concrete decks and part of the embankment remain to be finished. The roadway in the Boulevard Victor Hugo has been lowered.

S.N.C.F. passenger traffic is concentrated at Nantes-Orleans Station; the Bourse Station, situated near the heart of the city on the main line, was closed in 1940. A few slow passenger trains enter the Nantes-Etat Station on lines as yet unconnected with Nantes-Orleans. Freight services on the Loire quays will be maintained by short branch lines from the Nantes-Etat and Chantenay marshalling yards crossing the roadways without barriers.

RAILWAY NEWS SECTION

PERSONAL

Mr. A. G. Fletcher, Commissioner, Victorian Railways, has proceeded on sick leave.

Dr. D. J. Wansink, Vice-President of the Netherlands Railways, has been created a Knight (*ridder*) in the Order of the Netherlands Lion. This honour was bestowed recently by the Queen of the Netherlands in her Birthday Honours List.

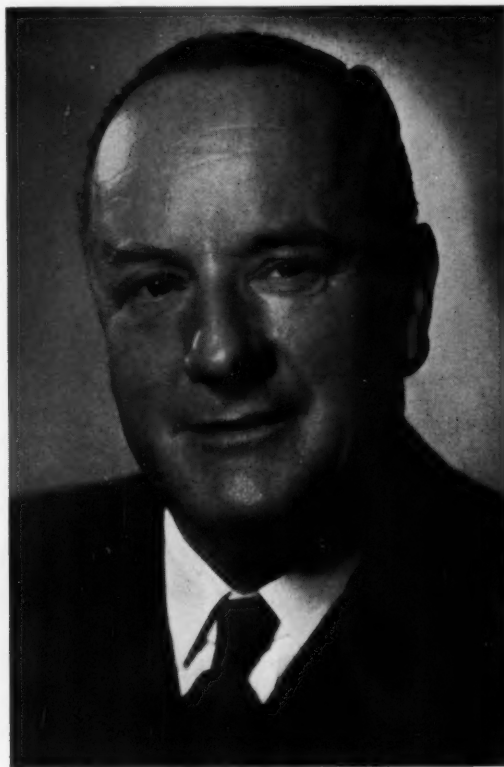
Mr. W. L. Wyber, Manager of the Auckland Branch of the National Bank, who, as recorded in our January 23 issue, has been appointed a Director of the newly-formed New Zealand Government Railways Management Commission, was born at Milton, Otago, in 1893, and was educated at the Milton and Gore Schools. He joined the mercantile firm of Dalgety & Company in 1907, and took up banking as a career two years later when he entered the National Bank of New Zealand. For

Wales Division. This quickly won for him recognition, and at the end of ten years he had, by successive promotions, attained the position of Chief Detective Inspector, and in January, 1912, he was appointed Chief of Police. When he joined the G.W.R. police force it was a comparatively small body of officers known as the "Special Police," who specialised solely in the detection of crime. A few years after his appointment as head of the Special Police, the police officers who were employed at



Mr. R. Martin

Director, New Zealand Government Railways Management Commission



Mr. W. L. Wyber

Director, New Zealand Government Railways Management Commission

Mr. R. Martin who, as recorded in our January 23 issue, has been appointed a Director of the newly-formed New Zealand Government Railways Management Commission, was born at Hastings in 1889 and educated at the Hastings School. Mr. Martin began his career as a telegraph messenger and, after serving a few years with the Post & Telegraph Department, he decided to enter commerce and later conducted a successful drapery business which he disposed of to enter the New Zealand armed forces during the first world war. In 1924 he became a salesman for the Vacuum Oil Company in the Hawkes Bay District, and twenty-one years later had risen to the position of General Manager for New Zealand. Although Mr. Martin retired from the Vacuum Oil Company last year, he has retained his interest in commercial undertakings and a few months ago was elected Chairman of the Board of Directors of a well-known New Zealand brewery company.

the past thirteen years he has occupied administrative positions, and has gained wide experience of the organisation and operation of many of New Zealand's leading business enterprises. In 1935 Mr. Wyber was promoted to Resident Inspector at Wellington, and five years later was appointed Manager of the Auckland branch of the National Bank. He recently retired from banking with 44 years' service.

Mr. John Harry Matthews, formerly Chief of Police, Great Western Railway, whose death was recorded in our May 29 issue, retired on January 4, 1935, after a service of 49 years. He commenced his railway career at the age of fifteen, and after a number of years experience in various positions in the Traffic Department he joined the company's police force in 1896 as a detective at Cardiff. In that capacity he accomplished exceptionally meritorious work in the detection of crime in the South

various goods and passenger stations were merged into the body, and these, together with the officers transferred from the various South Wales railway companies, on amalgamation with the Great Western in 1922, comprise the company's police force as constituted today. Mr. Matthews was one of the British delegates to the International Police Convention in New York in 1926. He had previously visited Canada and the U.S.A. as a member of the G.W.R. deputation in 1923. For some years he was Chairman of the Conference of Chiefs of Railway Police, and he also took an active interest in other directions for which his specialised knowledge and experience peculiarly fitted him. These include service on the London Chamber of Commerce Committee on the Pilferage of Goods in Transit, etc., and the Presidency of the Railway Police Benevolent Association. He was also a member of the Bucks County Council, the Berks, Bucks & Oxon Joint Vagrancy Committee, the Eton Guardians,

the Slough School Management, and the Slough Higher Educational Committee. The following Western Region officers were among those who attended the funeral service which was held at St. Lawrence Church, Upton, Slough, on May 27:—Messrs. C. R. Dashwood, Chief Accountant (also representing Mr. K. W. C. Grand, Chief Regional Officer), W. W. Wood, Chief of Police, R. White, Stationmaster, Slough, P. W. Pine, Retired Solicitor, C. W. Wye, Chief Accountant's Department (also representing Sir Felix J. C. Pole), C. A. Newman, Chief Accountant's Department.

Mr. R. E. Dawtrey has been appointed Chief Engineer, Sheepbridge Engineering Limited, Chesterfield, and will be responsible for all metallurgical, chemical and engineering research and development.

Mr. P. T. Bliss has been appointed Sales Director of G. A. Harvey & Co. (London) Ltd. He is a Member of the Incorporated Sales Managers' Association; he joined the company in 1909, and has been Sales Manager for a number of years.

Mr. E. A. Grace, Research Officer to Coras Iompair Eireann, has been appointed Assistant Chief Accountant to the undertaking. He was educated at Blackrock College, Dublin, and was awarded the Gold Medal of the Institute of Chartered Accountants in Ireland when he qualified as a Chartered Accountant in 1943. He joined C.I.E. as Investigating Accountant in 1946.

We regret to record the death on May 30, at the age of 96, of Sir Sam Fay, J.P., M.Inst.T., whose distinguished railway career, which included the General Managership of the Great Central Railway during the last twenty years of its independent existence, extended from 1872 until finally severed in 1945 with his retirement from the boards of the Buenos Ayres Great Southern and Buenos Ayres Western Railways, of which he had been a Director for many years. Sir Sam Fay's directorships had included also the Chairmanship of Beyer, Peacock & Co. Ltd., from 1923 to 1933. He was President of the Institute of Transport for 1922-23, and he was well known in transport circles overseas, having visited Australia, New Zealand, Canada, the U.S.A., and South America. Born on December 30, 1856, at Southampton, he joined the London & South Western Railway in 1872 as a boy clerk. In 1885, he was appointed Chief Clerk in the Traffic Superintendent's Office. He reached the position of Assistant Storekeeper in 1891, but next year went to the Midland & South Western Junction Railway as General Manager. He succeeded in putting the latter system, the fortunes of which had been at a low ebb, into good order before returning to the London & South Western, in 1899, as Superintendent of the Line. During the South African War he was mainly responsible for the smooth working of the heavy troop-train traffic over the L.S.W.R. In 1902 he was appointed General Mana-

ger of the Great Central Railway, and he held that position until the amalgamation on January 1, 1923. Some account of his work for that railway is given in an editorial article on page 640. He received his knighthood at the opening of Immingham Dock in 1912.

During the 1914-18 war he was Director of Movements at the War Office from January, 1917, to March, 1918, and then Director-General of Movements and Railways and a member of the Army Council until 1919. In May, 1919, he was personally thanked by King George V for



The late Sir Sam Fay

General Manager, Great Central Railway, 1902-1922

(From a photograph taken in middle life)

his services in that capacity. In 1919 also he was elected a Director of the Buenos Ayres Great Southern Railway Co. Ltd. and the Buenos Ayres Western Railway Limited. He was also a member of the Railway Executive Committee and of the Ports & Transit Executive Committee from 1913 to 1921. He was a member with Sir Vincent Raven, in 1924, of the Royal Commission on the New South Wales Government Railways and Tramways, and in 1925 he and Sir Vincent Raven, made a report to the New Zealand Government on the working of the railways. Earlier he had served on two committees not directly concerned with railway matters, the Committee on Post Office Wages in 1904 and the Departmental Committee on Inshore Fisheries in 1913. His publications included "The War Office at War" (1937), an outspoken account of his military activities, in the course of which he consistently refused to wear uniform. He was also the author of some minor works on non-railway subjects.

Mr. J. W. Barriger, Vice-President of the New York, New Haven & Hartford Railroad, has resigned, and has been appointed Vice-President of the Chicago, Rock Island & Pacific Railroad with effect from June 1.

Mr. H. R. Caulfield-Giles, M.Inst.T., A.C.I.S., Chairman, Traders' Traffic Conference, has joined Davies & Robson, Transport Accountants & Consultants, to look after their interests in the S. Wales and Bristol areas and the West Country.

Mr. R. W. M. MacAlpine, A.M.I.E.E., Assoc. A.M.I.E.E., has been appointed Assistant Manager of the London District Office of the British Thomson-Houston Co. Ltd. Educated at St. Lawrence College, Ramsgate, Mr. MacAlpine then gained his Diploma (Elec. Eng.) at the Regent Street Polytechnic. In 1926 he began a graduate apprenticeship course at B.T.H., Rugby, and later joined the staff of the Industrial Sales Department. After transfer to the Contract Department he was, in 1934, appointed to the company's export staff in London. In 1941 he was commissioned in the R.A.O.C., and after being invalided out of the Army with the rank of Captain, R.E.M.E., joined the staff of B.T.H. London District Office, Crown House, Aldwych, where he was engaged on Central Electricity Board, railway, industrial, and hydro-electric contracts. Since 1948 Mr. MacAlpine has been concerned chiefly with B.T.H. heavy plant for the British Electricity Authority.

NOMINATIONS FOR VACANCIES ON INSTITUTE OF TRANSPORT COUNCIL

Nine Members and one Associate Member retire from the Institute of Transport Council on September 30, 1953, and to fill the vacancies the Council has nominated:—Messrs. S. Dudman, Transport Manager, Balfour Beatty & Co. Ltd., Director, Llandudno & Colwyn Bay Electric Railway Limited; *R. G. Grout, Director, General Steam Navigation Co. Ltd.; *A. A. Harrison, Executive Officer (Road Transport), Railway Executive; E. S. Hunt, Assistant Chief Regional Officer, London Midland Region, British Railways; *D. S. Inman, District Goods Superintendent (Liverpool), London Midland Region, British Railways; W. MacGillivray, Managing Director, Prince Line Limited, Director, Furness, Withy & Co. Ltd.; C. H. S. Pickett, Director & General Manager, Eastern Counties Omnibus Co. Ltd.; *A. G. Marsden, C.B.E., Transport Adviser to the Board of Unilever Limited; Major-General G. N. Russell, C.B., C.B.E., Chairman, Road Haulage Executive; *C. F. Klapper (Associate Member), Associate Editor, *Modern Transport*.

* Former Member of Council.

Mr. T. H. Moffat, Deputy Chief Regional Officer, British Railways (Scottish Region), retired on May 31 after 51 years' service. Mr. Moffat joined the Caledonian Railway in June, 1902.

The Coronation Honours

The following is a selection of honours of transport and industrial interest from the Coronation list:—

Baron

Sir Ralph George Campbell Glyn, M.P. For political and public services. He was a Director of the London Midland & Scottish Railway Company from 1929 to 1947.

Knights Bachelor

Mr. Ernest Wensley Laphorn Field, Director, Scottish Engineering Employers' Association.

The Hon. Francis John Hopwood, Managing Director, Shell Transport & Trading Co. Ltd.

Mr. Stanley Walter Rawson, Director of Machine Tools, Ministry of Supply.

K.B.E.

Sir Greville Simpson Maginness, Chairman, Churchill Machine Tool Co. Ltd.

Sir Frederick Ernest Rebbeck, Chairman and Managing Director, Harland & Wolff Limited.

C.B.E.

Mr. E. B. Ball, Managing Director, Glenfield & Kennedy Limited.

Mr. B. E. Common, Chairman, Tyne Improvement Commission.

Mr. W. Surrey Dane, Joint Managing Director, Odhams Press Limited. For services to King George's Jubilee Trust.

Mr. J. Donovan, Member, Docks & Inland Waterways Executive.

Col. B. H. Leeson, Director of British Electrical & Allied Manufacturers' Association.

Mr. C. W. Moss, Director, Vickers-Armstrongs Limited.

Mr. D. A. Oliver, Metals Economy Advisor, Ministry of Supply.

Lt.-Colonel G. R. S. Wilson, Chief Inspecting Officer of Railways, Ministry of Transport.

O.B.E.

Mr. F. W. Abraham, Motive Power Superintendent, London Midland Region, Railway Executive.

Mr. E. J. Borron, Assistant General Manager, Nyasaland Railways.

Mr. John Cuthbert Needham, Chairman, Evershed & Vignoles Limited.

M.B.E.

Mr. Egon Benedict Babler, Chief of Metallurgic & General Research Laboratory, Allen West & Co. Ltd.

Mr. Arthur Henry Blackwell, Director & Works Manager, David Brown Companies, Meltham, Yorkshire.

Mr. Sidney Charles Hudson Fossett, Works Manager, Carriage & Wagon Works, N.E. Region, Railway Executive.

Mr. Harold Hoyle, Assistant to Operating Superintendent (Freight Trains), Eastern and N.E. Regions, Railway Executive.

Mr. Arthur Stanley Keeling, Midland District Engineer, S.W. Division, Docks & Inland Waterways Executive.

Mr. Richard Henry Linnell, Factory Superintendent, British Thomson-Houston Co. Ltd., Leicester.

Mr. David Henry McVeigh, District Manager, Road Haulage Executive. For services during the recent floods in the Eastern Counties.

Mr. Robert Charles Mundy, Bulk Contracts Manager, Ericsson Telephones Limited.

Mr. John Reginald Reed, Branch Accountant & Office Manager, the English Electric Co. Ltd., Preston.

Mr. Ralph Ernest Sadler, Assistant En-

gineer (New Works), Eastern Region, Railway Executive.

Mr. Bertram Dean Stanley, Secretary & Accountant, East Kent Road Car Co. Ltd.

Mr. Raymond Tuft, Divisional Superintendent, Leicester Division, Birmingham & Midland Omnibus Co. Ltd.

Mr. John Thomas Wiggins, Stationmaster, Manchester (Victoria, Exchange, and Salford), Railway Executive.

Mr. Ernest Philip Wharton, Deputy Inspector of Stores, Office of the Crown Agents for the Colonies.

Mr. Herbert Whittaker, Civil Engineering Department, Office of the Crown Agents for the Colonies.

B.E.M. (Civil Division)

Mr. Walter Bruce, Goods Guard, East-

ern Region, Railway Executive (Kings Lynn, Norfolk). For services during the recent floods in the Eastern Counties.

Mr. Norman Richmond Cail, Stationmaster, Bedlington, North Eastern Region, Railway Executive.

Mr. Frank Thomas Gerrish, Foreman, Brentford, Western Region, Railway Executive.

Mr. Harry Hare Goodhand, Lineman, Eastern Region, Railway Executive. For services rendered during the floods.

Mr. Frederick Midgley Guest, C. & W. Works, H2 Shop, Derby, London Midland Region, Railway Executive (Hon. Collector, National Savings Group).

Mr. Harold Scobey, Stationmaster, Parkeston, Eastern Region. For services rendered during the floods.

New Wagons in Western Australia

A survey of wagon stock in use on the Western Australian Government Railways in 1949, showed that there were 54 classes of four-wheel vehicles built on underframes of 12 different types varying in length from 11 ft. to 21 ft. There were 13 types of bogie wagon on six varieties of bogie, producing 61 distinct styles.

This lack of uniformity produced difficulties in both operating and maintenance, as well as requiring the provision of large and varied stocks of spare parts with limited interchangeability. The wagon replacement programme introduced by the present Railways Commission is intended to obtain maximum standardisation and minimum variation in vehicle underframes. Current wagon construction exceeds 4,000 vehicles, all of which will be built on only three lengths of underframes, 18 ft., 36 ft., and 42 ft.

The underframe consists of two longitudinals 13 in. apart, with cantilever outriggers to a crib plate; sole bars are not used. The vertical uprights are riveted to the crib rail. The longitudinals for four-wheel wagons are standardised to 18 ft. over headstocks, and bogie wagons are designed with longitudinals 36 ft. and 42 ft. over headstocks. In each instance the width is 7 ft. 8 in. over crib angles. On these frames any type of wagon body may be erected. In addition, increased axle-load and higher tare-load ratio is incorporated in the new standard designs; the maximum axle-loads are 13 tons for four wheel wagons and 13½ tons for bogie wagons.

The bogie with 5 ft. 6 in. wheelbase and cast-steel diamond frame and snub control spring is standard for all freight bogie stock, and also for locomotive tenders. It uses the standard 31½-in. wheel and axles with 10-in. by 5-in. journals. This wheel axle assembly is standard for all carrying wheels of locomotives and new rolling stock. From the longitudinals downwards, all parts will be standardised and interchangeable, with consequent economy in construction and reduction in stocks of spare parts, resulting in easy and economical maintenance.

Instead of the present W.A.G.R. type of central drawgear and coupler with side chains, N.C.D.A. central drawgear and coupler is being fitted, which allows for articulation of 15 degrees in both the vertical and horizontal planes, with a drawbar pull of 54,000 lb. Side chains and hooks are not used. Instead of door chains and cotter pins, chainless door coters are being fitted, preventing damage and loss of parts.

Each wagon will be fitted with vacuum and hand brakes. Disc wheels of 31½ in.

dia. on tread, on axles with 10 in. × 5 in. journals, are specified. With the exception of 50 four-wheel high-side open wagons which will have roller bearings and be confined to a shuttle service between the Collie coalfields and South Fremantle electric power station, axlebox lubrication will be by oiled woolwaste. Clasp brakes are fitted on all wheels and the brake-gear is compensated throughout; brake pullrods have palm ends, allowing for rapid adjustment of brake rigging to take up brake-block wear. All high-side and medium-side open wagons are designed with side and end doors suitable for rotary side and end tippler discharge. In the main floors will be of mild steel plate and the sides of hardwood with metal doors.

New orders now being supplied include 3,826 four-wheel (including 50 underframes only for special wagons) and 392 bogies, 230 of which are 36 ft. in length, and 162 42 ft. in length, equivalent to 4,610 four-wheel vehicles. These types of wagons under construction are as follow:—

18 ft. four-wheel	"GH" 600 high-side open (6 ft. side)
	"GM" 616 medium side open (4 ft. side)
	"HC" 250 low side open
	"CXB" 300 sheep
	"BE" 300 cattle
	"FD" 1,000 louver covered
	"DC" 710 covered, semi-louvre, bulk wheat and general purpose
	50 underframes for special wagons
36 ft. bogie	"RC" 50 medium open
	"VD" 180 covered louver
42 ft. bogie	"QC" 72 flat top
	"TA" 90 cattle

So far 269 cattle, 272 medium-side open and 215 low-side open (all four-wheel) and 60 bogie louver covered wagons have been received. An indication of the load tare ratio achieved in the new design is shown in the four-wheel medium high-side wagon, which carries an 18 ton 18 cwt. load on a 7 ton 2 cwt. tare, and the low-side open wagon with a 19 ton 18 cwt. load and 6 ton 2 cwt. tare.

INCREASE IN TOURIST TRAFFIC.—Latest figures issued by the British Travel & Holidays Association show that nearly 60,000 overseas visitors arrived during April. Of this total 14,300 were from the United States—an increase of 40 per cent compared with the same month last year. There was a big increase also in arrivals from Commonwealth and Empire countries, which are estimated at 20,000 for the month. Total of overseas visitors for the first four months of Coronation year is now 159,000, an increase of 13 per cent. This figure includes nearly 30,000 American visitors, 31 per cent more than for the same period last year.

Ministry of Transport Accident Report

Between Dalmarnock and Bridgeton Cross, August 18, 1952: British Railways, Scottish Region

Colonel R. J. Walker, then Inspecting Officer of Railways, Ministry of Transport, inquired into the accident which occurred at about 12.40 p.m. on August 18, 1952, in the tunnel between Dalmarnock and Bridgeton Cross on the Glasgow Central line, when the 12.35 p.m. train Rutherglen to Balloch, consisting of four coaches drawn by a class "4" M.T. tank engine, was wrongly admitted to the block section and collided with the 12.30 p.m. train Rutherglen to Possil, composed of three coaches drawn by a class "3" tank engine, which had come almost to a stand for want of steam. Brakes were off on both trains. One passenger and three railwaymen were slightly injured and damage was negligible. The line rises between the two stations at 1 in 130, 750 and 642; it curves to the left for 80 yd. after Dalmarnock and is straight thereafter. The collision occurred about 150 yd. before

The accompanying diagram shows the lines, signals, etc., essential to an understanding of the case.

Course of Events and Evidence

The first train entered the section in the ordinary manner and the release of the block at Dalmarnock enabled the signalman there to accept the following one. Lack of steam caused it to come nearly to a stand. After a few minutes Dalmarnock telephoned to ask about it and the signalman at Bridgeton Cross, who was making tea and warming his lunch, jumped to the conclusion that it had passed without his noticing it and there had been a treadle failure. By forcing open the door of the relieving instrument he was able to release the block without the co-operation of Glasgow Green, which he did, and then accepted the second train into the occupied section.

The signalman at Dalmarnock said that when the normal interval had passed and no signal had been received he telephoned to Bridgeton Cross. He did not hear the reply but almost immediately received "train out of section." He then offered the Balloch train which was accepted at once. It entered section at 12.40 p.m. and shortly after Bridgeton Cross telephoned to say there had been a collision.

The signalman at Bridgeton Cross was aged 50, and had joined the railway in 1919. He had been signalman for 20 years, and since 1948 rest day relief signalman. He had relieved at Bridgeton Cross frequently. He said the Possil train was offered in the usual way and in turn to Glasgow Green; all signals were pulled off for it. He was not busy. His box was large and the stove situated behind the frame on the far side from the Dalmarnock line. It was possible for a train to

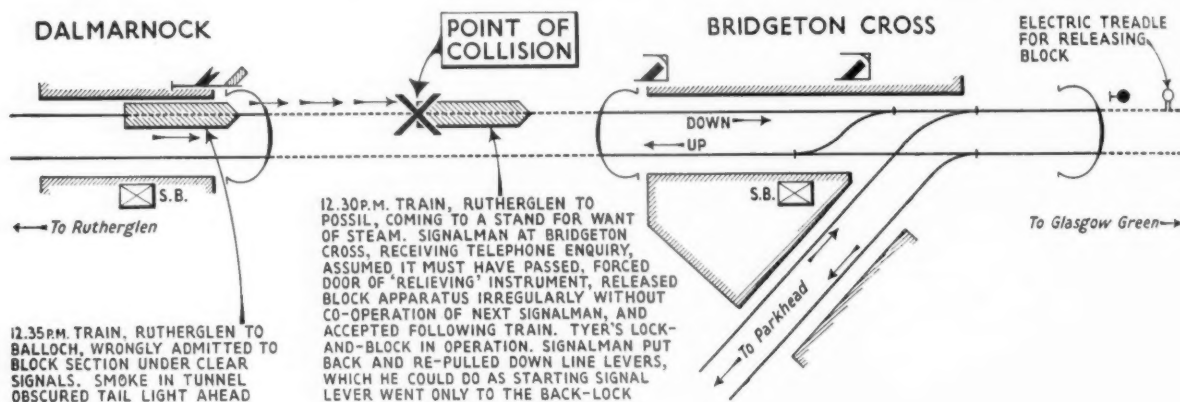


Diagram showing circumstances of accident between Dalmarnock and Bridgeton Cross, Scottish Region, August 18, 1952

the Possil train emerged into Bridgeton Cross station.

The line is worked on Tyer's lock-and-block system under which the starting signal cannot be cleared unless "line clear" is received. Its lever, when pulled, becomes check-, or back-locked and requires "train entering section" to be acknowledged before it can be put fully normal. The starting signal must be at danger to give "train out of section." To free the block in the event of a cancellation or treadle failure a so-called "relieving instrument" is provided, normally requiring the co-operation of the signalmen on each side, but as Bridgeton Cross is the first box of a series fitted with this particular apparatus only the co-operation of the signalman at Glasgow Green is essential. Any variation in the sequence of the working requires this co-operative action. (An appendix to the report gives a description of this equipment and its operation. The instructions quoted caution signalmen not to resort to it until "quite satisfied that its use is really necessary under the circumstances indicated" and add that any improper use "will be considered a serious offence.") The block normally is released by an electric treadle situated in advance of the starting signal.

The signalling equipment was found to be in order, but one irregularity was discovered. A piece of steel wire bent into a spiral spring had been inserted between the lock armature and locking dog in three of the electric lever locks at Bridgeton Cross and one at Glasgow Green. Their purpose is discussed below, but it is unlikely that it was connected with the circumstances of the collision. The engine which encountered steaming difficulties was in good condition and was a good steamer, but the fireman had been accustomed to a different type and never worked this type. He joined the train at Rutherglen and had not had time to adjust himself to the injector controls and method of firing.

The driver of the Possil train said they began to lose steam after Dalmarnock and the brakes commenced to rub. He thought the cause was that the fireman experienced difficulty with the injector. They lost about two minutes in the tunnel. The collision pushed them forward about 100 yd. although it broke the vacuum pipe and the brakes became fully applied.

The driver of the Balloch train found the Dalmarnock starting and Bridgeton Cross distant signals "off" and saw no tail lamp before the collision. He thought he was travelling at about 15 m.p.h.

pass on that line unnoticed, if he was not watching. He was eating lunch when "entering section" was received. After about five minutes he was asked if the train had cleared, glanced at the clock without looking at his instruments, and concluded the train must have passed. He hastily threw back his signals and irregularly opened the relieving instrument to clear the block, gave "out of section" and accepted the second train, finally pulling off for it. Almost as soon as he had done that it occurred to him that he should not have been able to pull his starting signal lever a second time and he realised what he had done. "Entering section" had, however, been received and he could do nothing. He telephoned to tell Dalmarnock of his mistake and heard the collision while doing so. (It is clear from the arrangement of the apparatus that, when putting back his levers, he failed to realise until too late that the starting signal lever had not been fully restored and he should not have been able to pull it again.)

This signalman said his whole purpose in so acting was to save delay and that he was convinced he had fully restored the lever, although had he done so he should not have been able to pull again without another "line clear" from Glasgow Green. Questioned about his method of opening

the apparatus he explained it was a knack he had learned many years ago by which he could "jump" the hook out of the electric lock holding the door. He had done that in other signal boxes and had been "doing it so long it had become a habit." He thought he was not the only signalman who so acted. "We do it generally when a cancel signal is sent rather than go through the proper means. It saves time and it is convenient."

Whenever he did that the signalmen each side must have known, but he had never been challenged. Linemen might not know about it because signalmen would not do it if they were in the box, and he never had. He had never been under the floor and knew nothing about the pieces of wire in the locks. If they did allow the check-locks to be overcome improperly he could not see what the advantage would be.

The District Traffic Inspector had known this signalman for a long time and had a high opinion of him. He was not a man likely to lose his head in an emergency; he had never known him to be careless. He did not think the irregular opening of the instrument was common knowledge among signalmen, but a case came to light at Glasgow Green two years before and was reported. He could not see any point in the wires in the locking mechanism.

Five other signalmen who were working, or had done so, at Bridgeton Cross were questioned but denied knowledge of any irregular use of the relieving instrument or method of doing it.

A relief telegraph lineman said the box had been in his care for about eight months. He examined the locking about once a month and last did so on July 28. Everything was correct; he was certain there was no piece of wire in any lever lock. He had no idea why the wires were there. It would not have been for adjusting the lock. Had he heard of the method of opening the relieving instrument he would have reported it at once.

Inspecting Officer's Conclusion

The collision was caused and made possible by the irregular actions of the signalman allowing two trains into the section, and by his tampering with an instrument, thus destroying the very adequate protection afforded by the signalling installation.

Remarks

This man's actions are difficult to understand, the more so because of his long experience and good record. He said he could not account for them. The only explanation he advanced was saving delay, which was true but hardly sufficient. But a few weeks earlier some question had been raised with him about delay and this may have been uppermost in his mind. His actions were too deliberate and calculated to have been done on a sudden thoughtless impulse. He should have been too experienced to lose his head; that he did so completely seems to be the only explanation.

To assume, however, a treadle failure and attempt to operate the relieving instrument properly or improperly without looking at the block indications which would have shown him the position, and to pull a signal lever which instinct alone must have told a signalman of his experience he should not have been able to pull, were actions for which no explanation can be found.

These serious mistakes would also have been avoided had it not been for the irregular opening of the relieving instrument,

which was plain wrong doing. It had become the man's habit, in full knowledge of what he was doing, to destroy the protection afforded and jeopardise the safety of passengers and train crews. For this there can be no excuse.

Despite what other signalmen said, Colonel Walker does not doubt that the irregular practice was widely known, if not practised, in the area. Whenever a cancellation was effected in this way the signalmen whose co-operation should have been necessary can hardly have failed to notice it and the dangers of the practice must have been immediately obvious to them.

Colonel Walker does not think the wire in the starting signal lock had any direct connection with the accident. Tests made, exerting great force, proved it was possible to bounce the locking dog and free the check-lock, but such force could not have been used often without seriously damaging the frame, while from the signalman's point of view nothing was to be gained by overcoming the lock. The only explanation which seems to be possible is that the coils would assist the working of the lock if the batteries were allowed to run down and the voltage drop. This would be the lineman's, not the signalman's, responsibility. Be that as it may, tampering with the mechanism of a lock is as wrong and dangerous as tampering with an instrument.

All relieving instruments have been examined, and where necessary altered so that it is no longer possible to open them in the manner disclosed.

PURCHASING OFFICERS ASSOCIATION.—The recent growth of the Purchasing Officers Association has necessitated further expansion in the head office accommodation. From June 1 the Association has taken over the remainder of the first floor offices at Wardrobe Court, and an additional extension telephone line has been arranged. The new telephone number is City 3841/2/3.

Record Tracklaying on Labrador Line

Special measures are being taken to speed up the construction of the new 360-mile railway from Seven Islands on the St. Lawrence River to the iron ore deposits at Knob Lake, Labrador. Uncertain world conditions have made it essential to complete this line at the earliest possible moment, to ensure constant supplies of ore to steel mills in the United States. There have been several occasions on which over 8,000 ft. of new track have been laid in a single working day, and the weekly record so far is one of 8.2 miles in seven days, which it is hoped ultimately to increase to 10 miles in a week. The only limit is the speed at which the formation for the track is completed ahead of the tracklaying.

Sleepers are run out at night, and also special gauge rods, four to a rail length, which are used to hold the 132 lb. rails to gauge until the crane and work train have passed over them. The first unit of the day force lays out the sleepers in their right position and alignment. Then the rail crane, advancing over the rails which it has laid, draws behind it one wagon of rails from the work train, lifts two rails off, swings them through 180 deg. and drops them down ahead, where they are heeled into position and held to gauge by the special gauge rods as the crane advances over them. When all the 70 rails have been unloaded, the crane lifts the racks on which the rails have been loaded off the bogies that support them, and after that lifts the bogies off the track, so that it can reverse and back to pick up the next rail wagon. The parts of each wagon are then picked up and reassembled on the rails by a following crane. Behind the rail-laying crane come the gangs which spike, align, ballast, and pack the completed train. The special demountable rack-rail cars have greatly speeded up the work, as they cut out all shunting of empty cars, and the laying in of special sidings for them.

Indian Railways Centenary Exhibition Stand



Exhibits on the stand of Heatly & Gresham Limited at New Delhi included Versil insulation, Wonham shims, vacuum brake equipment, Tecalemit Syndromic units, Beclawat windows, and Pritchett & Gold and E.P.S. Co. Ltd. batteries

Transport of Fruit and Vegetables

*British productivity team
report after visit to U.S.A.*

The report* of the British team which visited the U.S.A. in 1951, under the auspices of the Anglo-American Council on Productivity and the Economic Co-operation Administration (now the Mutual Security Agency), to study the storage and pre-packaging of fruit and vegetables, points out that the great distances in U.S.A. have ensured development of refrigerated transport. Although this until recently was confined mainly to the railways, refrigerated road transport latterly has made great strides. Without the refrigerated railway car, however, the present development would not have been possible of the horticultural areas of the South and West.

Movement of large quantities of fresh fruit and vegetables 3,000 miles or more, taking possibly eleven days, is made possible by a continuous process of refrigeration from the pre-cooling room at the despatch point to the retail shop. For this type of short-term storage, the report states, the refrigerator car has become an efficient unit. Sometimes it is used for stationary storage, up to four days at a time, by the consignee; cars may be so held two days free of charge, a further three days at \$3 a day, and thereafter at \$6 a day.

Types of Refrigerator Van

The 130,000 refrigerator railway vehicles in U.S.A. are largely standardised and of steel construction. The latest type has built-in fans driven from the wheels; 3½-4 in. of insulation; and built-in ice bunkers at each end holding 11,000 lb. or more of broken ice. Duckboarded floors ensure air circulation beneath the load. Approximate internal dimensions are: length 40 ft., width 9 ft., and height 8 ft. The

load varies with the type of produce. Some 17,000-20,000 lb. of strawberries or 20,000 lb. of crated lettuces may be carried.

Bracing to prevent movement of containers is insisted on by railway companies, which also specify types of container so as to minimise claims. Light containers can be used when bracing is by wooden stripping.

Pre-Cooling

Vans may be pre-cooled 8-12 hr. before loading by putting ice in bunkers and circulating air by a portable fan. In some recent types built-in fans are operated by an electric motor whilst the vehicle is stationary; or it can be pre-cooled by a blower unit brought alongside or taken to a pre-cooling plant.

The frequency of re-icing *en route* depends on external temperatures and the contract with the railway company. Temperatures of 40°F. or less can be maintained under the usual refrigeration service; 10° can be attained if the ice is salted heavily. Ordinarily, in hot weather and in cars fitted with fans, temperatures range from 32° at the bottom to 40° at the top. Mechanical refrigeration also is used to a small extent.

It is usual to provide "top ice" or "body ice" for vegetables such as lettuce, cauliflower, celery, and certain others, except beans, potatoes, and others, which must be kept dry.

Top Icing

Top icing consists of covering the top of the load with a thick layer of crushed or shredded ice or "snow ice." The general method is to blow mechanically 5-10 tons of this ice over the load after it has been braced. The ice fills the spaces between crates and forms a layer up to 2 ft. thick over the top.

Crushed ice may be supplied from

equipment at the loading point or be brought to the railway van in the form of blocks by a road vehicle fitted with machinery to shred the ice and blow it over the load. Most important railway depots have facilities for top icing.

Besides top icing, refrigerator cars may or may not be provided with bunker ice. With top icing, cooling is more rapid than when bunker ice only is employed. Top icing is additional to any ice placed in the packages themselves. Temperatures of 32°-36°F. can be maintained in cars of lettuce in transit with top icing, despite outside air temperatures in the 90's. Because of the risk of vegetables freezing, the temperature of the ice used should not be far below melting point.

The severe winters in some parts of the U.S.A. necessitate heating of consignments such as potatoes to prevent freezing, vehicles being equipped with special heaters.

The report comments that British Railways have no vehicles comparable with those used for refrigerated fruit and vegetable transport in the U.S.A. Attention, however, is drawn to Interfrigo cars, of which the loading capacity, 1,095 cu. ft., is rather under half that of American vehicles. Cooling is by bunker ice at each end and air circulation by fans in the roof. The insulation is comparable with that in the U.S.A. vehicle.

New Cafeteria at Paddington

A new cafeteria and waiting room providing day and night service is now in use on the eastern (arrival) side of the "Lawn" at Paddington Station. It replaces the former tea and waiting room on the same site. When he opened it on May 29 Mr. K. W. C. Grand, Chief Regional Officer, Western Region, praised the Hotels Executive for the skilful manner in which it had converted the room to its new use.

The scheme marks the first step in the complete modernisation and reorganisation of the refreshment facilities at Paddington and is part of the Hotels Executive's comprehensive plan for improving station refreshment rooms throughout the country at a cost so far of over £150,000. It was instigated by Mr. E. K. Portman-Dixon, Refreshment Room Superintendent, Hotels Executive, and was carried out by Mr. S. P. Smith, Chief Works Officer, to the design and under the supervision of Mr. N. A. Barber, Chief Architect, with Mr. C. P. Johnson as Senior Assistant.

The whole of the counter is in stainless steel, the barrier screen is in walnut veneer with glass top and the back fitting is also in stainless steel with the doors in walnut. The room has been relighted, the existing panelling renovated, the marble work made good and a complete new Terrazzo-tiled floor provided in a pleasant design of green and beige. The service adjoining has also been modernised.

The main contractors were Holland & Hannen and Cubitts Limited, 258, Grays Inn Road, London, W.C.1, and the flooring was sub-contracted to Art Pavements & Decorations Limited, St. Pauls Crescent, N.W.1.

First Meeting of Road Haulage Disposals Board



Members of the Road Haulage Disposals Board meeting at Clive House, London, S.W.1, on May 28 for a preliminary discussion of duties. Left to right: Mr. R. H. Farmer; Lord Rusholme; Sir Malcolm Trustram Eve, Chairman; Messrs. F. J. Orchin, Gordon Graham, J. W. Greenwood, and E. S. Foster (standing), who was appointed Secretary at the meeting

BRITISH RAILWAYS POST-CORONATION TRAFFIC.—By midnight on June 3 British Railways had run more than 400 special, relief and excursion trains from London for sightseers, services personnel, and provincial police returning from the Coronation. The numbers of ordinary and special trains scheduled from London on June 2 and 3 totalled more than 6,000.

* "Fruit and Vegetable Storage and Pre-packaging," London, S.W.1: The British Productivity Council, 21, Tothill Street. Price 3s.

B.T.C. Loyal Message to the Queen

The British Transport Commission, on behalf of its members and staff, has sent the following Loyal Message to Her Majesty the Queen:—

"May it please Your Most Gracious Majesty, We, the Chairman and Members of the British Transport Commission on behalf of ourselves and the Executives and companies forming part of the Commission's undertaking and of all the officers and staff engaged in that undertaking, in the Railways, in London Transport, in the Docks & Inland Waterways, in services by Road, both passenger and goods, in Hotels and in other activities, throughout Great Britain, numbering together some 880,000 of your subjects, assure Your Majesty of our loyal attachment and devotion to Your Majesty's Person and Throne.

"In submitting to Your Majesty, on the occasion of Your Majesty's Coronation, this expression of our loyal and dutiful sentiment we earnestly hope and pray that Your Majesty may long reign in great happiness, peace and prosperity. (Signed) HURCOMB."

Staff & Labour Matters

A.S.L.E.F. and Lodging Turns

At the A.S.L.E.F. annual conference at Scarborough last week, lodging turns were discussed privately. A statement issued afterwards pointed out that the question "should be regarded as a social, human problem. Having regard to the conditions under which locomotive men work, it was an insult to call upon them to lodge away from home."

The conference, it was added, acknowledged that efficiency of operation could be vastly improved by the application of other remedies, and it was stressed that the managements had means of overcoming the present difficulties without imposing the burden of lodging on locomotive-men.

The conference called upon members to give loyal support to their executive committee in their efforts to resolve the problem on a fair, reasonable, and human basis.

Parliamentary Notes

Footplate Staff Superannuation

The Minister of Transport, Mr. Alan Lennox-Boyd, informed Mr. P. H. Collick (Birkenhead—Lab.) in a written reply on May 20 that he would send to the British Transport Commission in the course of the next few days his observations on the outline proposals for a pension scheme for wages grades.

Helicopter Passenger Travel

Mr. J. A. Langford-Holt (Shrewsbury—C.) on May 20 asked the Minister of Civil Aviation what consideration had been given to the operation of amphibious helicopters between London Airport and the River Thames between London Bridge and Vauxhall Bridge.

Mr. J. D. Profumo (Parliamentary Secretary to the Ministry of Civil Aviation) said in reply that he had examined a proposal on these lines with British European Airways, but had concluded that the limited value to be obtained from such experimental operations with existing types of fully developed helicopters would not justify the cost to public funds. In answer

to a further question from Mr. Norman Dodds (Dartford—Lab.) he added that there had been further discussions, which were continuing with the L.C.C. regarding provision of a site suitable for a temporary passenger helicopter airstop on the South Bank.

Road Passenger Transport Report

Mr. Gerald Nabarro (Kidderminster—C.) on May 21 asked the Minister of Transport whether he would make a statement on the progress of the Thesiger Committee on Road Passenger Matters; and when the report could be expected.

Mr. Alan Lennox-Boyd wrote in reply that the committee now had almost all of the evidence that it expected to receive. It would take some time for it to prepare its report and he could not yet say when it would be ready.

Contracts & Tenders

Palmers (Hebburn) Co. Ltd. has received a contract to construct a new fore-end for the British Railways vessel *Duke of York*, which was cut in two after a collision with the American ship *Haiti Victory* recently.

Société Anonyme des Ateliers de Construction de Familleureux, Belgium, has received an order for 18 75-ton bogie flat wagons and two 75-ton bogie well wagons for the Egyptian State Railways.

The National Coal Board, South Wales Division, has placed an order with Brush Bagnall Traction, Limited (a member of the Brush Group of companies) for two 400-h.p. 0-6-0 diesel-electric shunting locomotives for use at Cwm Colliery. These locomotives are to be equipped with National R4AA6 engines and Brush electrical equipment comprising main and auxiliary generators, traction motors and control gear. The mechanical parts will be manufactured by W. G. Bagnall Limited.

The Special Register Information Service of the Board of Trade, Commercial Relations & Exports Department, reports that the British Legation, San José, Costa Rica, has notified a call for tenders issued by the National Procurement Department, Government of Costa Rica, for the supply of two (alternatively four) electric locomotives for service on the Pacific Electric Railway, Costa Rica.

The locomotives are to weigh not more than 60 tons each, are to be as powerful as the specification will allow, and are to be capable of a maximum speed of 70 km.p.h. They are to be suitable for 3 ft. 6 in. gauge track of 78 lb. rail. The total route length over which the locomotives will have to operate is 116 km., including a length of 14 km. containing 87-metre radius curves and gradients of 3 to 4 per cent. The route varies in altitude from four to 12,000 metres above sea-level. There is a tunnel 288 metres long, 3.65 metres wide and 3.05 metres high to the centre of the semicircular arch of 1.7 metres radius. Single-phase alternating electric current at 15,000 volts, 20 cycles, will be supplied to the locomotive pantographs by an overhead conductor at a maximum height of 5.8 metres above rail level.

Further details of the tender and specifications are published in *La Gaceta-Diario Oficial* (Costa Rica) of May 1, from which the relevant extract (in Spanish) may be inspected at Room 6176, Board of Trade, and technical information on the track and equipment at present in use may be obtained from the Chief Engineer, Pacific Electric Railway (Ferrocarril Electrico al Pacifico), San José, Costa Rica.

Tenders should reach the National Procurement Department by 2 p.m. on August 4, and must be submitted through a local agent in Costa Rica.

The Special Register Information Service, Board of Trade, Commercial Relations & Exports Department, reports that the United Kingdom Trade Commissioner

Coronation Decorations at Paddington



Part of the "Lawn" at Paddington Station, Western Region, with its decorations for the Coronation period

at Johannesburg has notified a call for tenders issued by the South African Railways Stores Department, for: (a) 50, (b) 300 wearing plates for trailing bogies (two lots).

The wearing plates are to be manufactured from carbon-chromium or equivalent steel capable of being heat-treated and tempered to give a Brinell hardness number of approximately 400 after machining.

Tenders, which should reach the Chairman of the Tender Board, P.O. Box 7784, Johannesburg, by 9 a.m. on June 25, should be enclosed in a sealed envelope marked "Tender No. B.6393 Wearing Plates." A copy of the tender documents is available for inspection at the Board of Trade (Room 6176) by representatives of interested United Kingdom manufacturers until June 10, 1953, and thereafter on loan in order of application. Reference CRE/18812/53 should be quoted.

Notes and News

Drawing Office Manager Required.—

Applications are invited for the post of drawing office manager required by a Midlands firm producing general and railway engineering. See Official Notices on page 663.

American Car & Foundry Acquisition.—

The American Car & Foundry Company has purchased the entire outstanding capital stock of the Avion Instrument Corp. of Paramus, New Jersey. It is stated that the acquisition further broadens the company's field of activity and brings it into the electronics sphere, where there are unlimited opportunities ahead in further developments which will benefit all industry.

Moss Station to Close.—Moss Station, North Eastern Region, between Doncaster and Selby, will be closed on June 8. Alternative facilities for passengers are available at Askern, two miles away, whence West Riding Automobile Company operates a frequent service to and from Doncaster. Parcels and goods traffic will be diverted to Askern and the present collection and delivery service operating from that station will be continued.

Royal Show Traffic at Blackpool North.—

Platforms 15 and 16 at Blackpool North, L.M.R., are being widened and resurfaced to handle livestock traffic for the Royal Agricultural Show in July. The normal lighting columns are being removed and special lighting facilities installed so that loading and unloading of livestock can continue day and night. Water for washing down will be pumped from locomotive tenders on an adjacent line. In addition to the livestock, special freight trains will bring agricultural machinery, tractors and farm implements to Blackpool. On the showground itself British Railways representatives will be available to advise on all matters relating to transport. A special railway container park will accommodate the 600 containers, lift vans, and caravans which are expected to move by rail, and five mobile cranes will be on hand for loading and unloading.

Passenger Services Withdrawn from Naburn and Eserick.—

Passenger services are being withdrawn from Naburn and Eserick Stations on the Selby-York section of the North Eastern Region on June 8. An augmented parcels collection and

delivery service operated from York will serve both stations daily. There will be no alteration in the existing facilities for handling goods.

Butler Machine Tool Co. Ltd.—

At a board meeting of the Butler Machine Tool Co. Ltd. held at Halifax on May 20, the directors resolved that the dividend on the 5 per cent cumulative preference shares for the six months to June 30, 1953, be paid, less income tax at 9s. in the £. Warrants in respect of this dividend will be posted on June 29 and the dividend is payable on June 30.

More Cheap Day Fares in N.E. Region.—

Further stages in the experimental scheme of offering cheap day fares in the N.E. Region came into force on June 1, when new facilities of this type were introduced from Hexham, Newcastle, and Sunderland. From May 18 cheap day fares on the Newcastle-Carlisle line, previously offered as far as Haydon Bridge, have been extended to Carlisle and intermediate stations.

Slab at Llandrindod Wells Station to Commemorate Royal Visit.—

A slab of Welsh Blue Pennant Stone from Claerwen Dam has been set in the platform of Llandrindod Wells Station to mark the spot where the Queen first set foot on Welsh soil after her accession. It was unveiled on May 22 by Councillor C. G. Williams, Chairman, Llandrindod Wells Urban



Inscription on commemorative slab

District Council. The slab is inscribed: "This stone from the Claerwen Dam marks the spot where on 23rd October, 1952, Her Majesty Queen Elizabeth II first set foot in Wales after her accession to the throne." After the unveiling ceremony, speeches were made by the Lord Lieutenant and the High Sheriff of Radnorshire; Mr. Tudor Watkins, M.P. for Brecon & Radnor; and Mr. L. J. Hamblin, District Operating Superintendent, British Railways, Western Region, Chester.

New Cafeteria and Bar at Preston Station.—

A new cafeteria and bar was opened on platform 5-6 at Preston Station on May 28 as a further step in a comprehensive plan of the Hotels Executive for improving station refreshment rooms throughout the country, at a cost so far of over £150,000. In fourteen weeks, the former refreshment room on this platform has been transformed into a modern cafeteria and attractively designed bar, without interruption to the day and night refreshment service. The other two refreshment rooms at Preston have been improved during the last twelve months. The new cafeteria provides a full range of light refreshments, from hot meals to iced drinks. The kitchen and service facilities associated with the former refreshment room have been re-

planned on modern lines and a platform trolley service depot established, making it possible to expand the facility of selling refreshments direct to passengers on the trains.

Cammell Laird & Co. Ltd.—

A net profit of £655,227 is shown in the report of Cammell Laird & Co. Ltd. for the year to December 31 last. In 1951 the net profit was £463,550. The directors recommend a final dividend on the ordinary stock of 12 per cent less tax, together with a bonus of 2 per cent free of tax. After these appropriations, and the transfer of £230,095 to capital reserve and £65,000 to general reserve, the carry-forward to 1953 will be £184,693.

Day Excursions to France.—

Every Monday, Tuesday, Wednesday, Thursday, and Friday, from June 1 to October 2 inclusive, day excursion tickets are being issued from London Victoria and Folkestone to Boulogne. These tickets, which cost 67s. 6d. from London and 45s. from Folkestone, give over 5½ hr. on the French coast. Day ticket passengers, who must be in possession of valid passports, travel by the regular cross-Channel ship leaving Folkestone Harbour at 11.20 a.m., arriving Boulogne 12.50 p.m. The return vessel leaves at 6.40 p.m. and arrives in Folkestone at 8.10 p.m. The train leaves Victoria at 9 a.m. and arrives back in London at 10.30 p.m.

Canadian International Trade Fair.—

Mr. D. G. C. Mockridge, an executive of Associated Iliffe Press, is representing the eight British publishers who are combining in the display of 55 technical, trade, and specialised journals at the 6th Canadian International Trade Fair, Toronto, which opened on June 1 and continues until June 12. Eight Tophill Press publications are being shown, including *Diesel Railway Traction*. Last year the fair attracted 64,629 visitors. The display of technical, trade, and specialised journals will do much to supplement buyers' own impressions of Britain's goods and services, besides helping to create goodwill for British products throughout the world.

New B.T.H. Factory at Larne.—

A new factory of the British Thomson-Houston Co. Ltd., at Larne, Northern Ireland, will be concerned with the manufacture of components associated with turbine production, and will provide much-needed additional capacity required to cope with the demands for heavy electrical plant. The first stage in the provision of this factory will cover approximately 80,000 sq. ft. of floor space, employing at the beginning about 250 workpeople. Arrangements have been made for ample extensions. Until the new factory is available, existing premises in Larne are being rented in order to train labour and start production. This additional capacity for heavy plant production will serve to increase employment in the company's Rugby works.

East Kent Road Car Co. Ltd.—

The report of the East Kent Road Car Co. Ltd. for the year ended September 30, 1952, says that the results have been adversely affected by an increase in wages on a national basis which was awarded by an Arbitration Tribunal in October, 1951, and by the increase of 7½d. per gallon in the tax on petrol and fuel oil imposed by the 1952 Budget. A further increase in fares was put into force in October, 1952. Wages were again increased on a national

OFFICIAL NOTICES

The engagement of persons answering Situations Vacant advertisements must be made through a Local Office of the Ministry of Labour or a Scheduled Employment Agency if the applicant is a man aged 18-64 inclusive or a woman aged 18-59 inclusive unless he or she, or the employment, is excepted from the provisions of the Notification of Vacancies Order, 1952.

A 60-tons Horiz. Hydraulic WHEEL FORCING PRESS, 38½ in between tie rods, daylight 6 ft. 6 in., ram travel 12 in., with hand PUMP.—Box 856, *The Railway Gazette*, 33, Tothill Street, London, S.W.1.

THE GAS-TURBINE LOCOMOTIVE. A technical description of the gas-turbine recently constructed by the Metropolitan-Vickers Electrical Co. Ltd. for the Western Region, British Railways. Subjects dealt with include body construction, bogies, traction motors, prime mover, generators and auxiliary equipment. A folding plate drawing of the locomotive is included together with illustrations and diagrams. Reprinted from *The Railway Gazette*, February 1, 1952. Price 5s. Post free 5s. 2d. *The Railway Gazette*, 33, Tothill Street, London, S.W.1.

N.E.R. HISTORY.—Twenty-Five Years of the North Eastern Railway, 1898-1922. By R. Bell, C.B.E., Assistant General Manager, N.E.R. and L.N.E.R. Companies, 1922-1943. Full cloth. Cr. 8vo. 87 pages, 10s. 6d.—*The Railway Gazette*, 33, Tothill Street, London, S.W.1.

basis under an award by an Arbitration Tribunal at the end of September, 1952, which may necessitate another application for a revision of fares. The accounts show a net profit of £98,485; the balance brought forward from the previous year was £101,600. General reserve takes £50,000, leaving a balance of £150,085. The directors recommend a dividend on the 6½ per cent cumulative preference stock for the year ended September 30, 1952, less income tax, a dividend of 15 per cent on the ordinary stock, less income tax, and a bonus of 10 per cent on the ordinary stock, leaving £84,197 to be carried forward.

Inquiry into Bradford Station Accident.—Colonel D. McMullen, Inspecting Officer of Railways, Ministry of Transport, opened his inquiry at Bradford on May 28 into the accident at Bradford Forster Square Station on May 20 in which a passenger was killed and 14 injured when a locomotive hauling coaches to the yard collided with a four-coach train entering the station. The evidence of the driver and fireman of the shunting engine was taken in private.

New Field for Westinghouse Air Brake Company.—The Westinghouse Air Brake Company of the U.S.A. has purchased for approximately \$19,500,000 the earth-moving and related business of R. G. LeTourneau Inc., including all fixed assets and machinery at Peoria, Illinois, Toccoa, Ga., and its interest in the Australian subsidiary. The new business will be operated as the LeTourneau-Westinghouse Company, a subsidiary of Westinghouse Air Brake. LeTourneau makes a full range of earth-moving equipment, including scrapers, bulldozers, and special equipment for the logging, coal, snow removal, and other industries. The company, which was the first to equip earth scrapers with pneumatic tyres, is a leading U.S. manufacturer of this equipment. In 1952 it introduced a new line of tractor-drawn scrapers for use with the company's four-wheel, rubber-tyred tractor. Its equipment, with the trade-names such as Tournapull, Tournatractor, Tournarocker, Tournahopper, is used throughout the world.

New Company for Italian Pneumatic Tool Trade.—With the growing potential demand in the Italian market for the products of the Consolidated Pneumatic Tool Co. Ltd., the form of trading under which the company's products have hitherto been

THE PERUVIAN CORPORATION have the following vacancies on the railways in Peru:—Central Railway. **LOCOMOTIVE ASSISTANT**, preferably single and between 26/30. Qualifications: full apprenticeship with British Railways or locomotive builders, and experience in one or more of the following:—Railway Machine Tool Operation, Welding Boiler Work, Locomotive Running or Drawing Office. **ACCOUNTANT** (Traffic Auditor). About 30 years of age, preferably single with general auditing and railway accounting experience. **Southern Railways. ASSISTANT CIVIL ENGINEER** (Divisional) with practical experience on railway maintenance. **Guayaquil-La Paz Railway, Bolivia. TWO ASSISTANT ENGINEERS**, one with Electrical Mechanical Apprenticeship including experience with diesel engines and the other with Apprenticeship Permanent Way Department of British railway and with Drawing Office experience. Good education activity and first class health essential, age 25/30, single. **Northern Railways. DIESEL ENGINEER** with practical experience on diesel locomotives and railcars and workshop management. A knowledge of the Spanish Language is preferable in all these appointments or willingness to learn within 6 months. Apply: **SECRETARY**, 144, Leadenhall Street, London, E.C.3.

FOR SALE. B.H. Rails, 95 lb. Large quantity. **PIKE BROS.**, Private Sidings, Coinbrook, Bucks. Phone 175.

PARAGUAY CENTRAL RAILWAY CO. LTD. Vacancy occurs in Paraguay for Assistant Chief Mechanical Engineer. Knowledge of Spanish essential. For particulars write, the Company, 121, Queen Victoria Street, London, E.C.4.

handled has been reorganised and a new company, to be known as the Consolidated Pneumatic Tool Company, S.p.A., has been formed. The offices and works of the old organisation at Viale Piceno N.19, Milan, are being retained, and plans have been made for extensive development of business under the new arrangement.

Sheffield Victoria Station Roof.—The first stage of the construction of the permanent roof at Victoria Station, Sheffield, is now well advanced. The erection of the beams was undertaken on Sundays, March 22 and May 17. A description of the work, undertaken as a result of the collapse of part of the old roof on September 24, 1951, was described in our April 3 issue this year. The new beams are illustrated below.

The Superheater Co. Ltd.—Net profit of the Superheater Co. Ltd. for the year to December 31 last was £179,189. With the addition of £71,862 from provisions made in past years which are no longer required, and bringing in the balance of £75,622 from 1951, the total available profit is £326,673, which compares with £222,350

DRAWING OFFICE MANAGER required by Midland firm producing General and Railway Engineering. Staff of 10/12. Experience in Railway Track Work an advantage but not essential. Supervisory and administration experience, however, is essential. Superannuation (Life Assurance Scheme). Applicants to state full particulars of age, experience, qualifications, salary required and date available, to Box 238, W.B.G., 39, Cheapside, London, E.C.2.

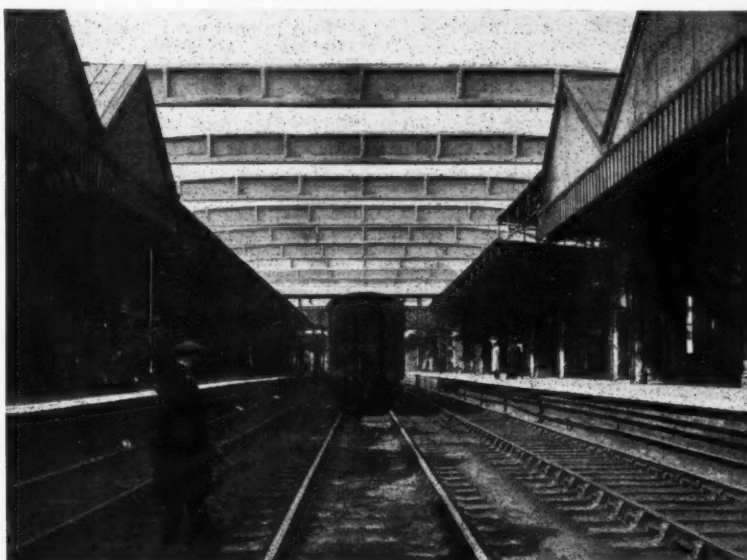
M.O.S. approved organisation has immediate capacity in a new factory for all types of high class sheet metal fabrication and light constructional work. Plate up to 5/16-in. thickness handled. Guillotine capacity up to 8 ft. × ½ in. and 10 ft. × 3/16 in.; bending up to 8 ft. × 5/16 in. and 10 ft. × ¼ in.; rollers, circle cutters, oxy-acetylene profilers, etc. Work done in aluminium, brass, copper, mild and stainless steel, black and galvanised sheet, lead coated and tin plate. Facilities include gas, electric arc, argonarc and bronze welding; jig welding and the use of manipulators. Special paint finishes applied as required, also metal spraying, bonderizing, phosphating and rubber covering. Quantity production of items no obstacle—we have 24,000 sq. ft. of floor space and skilled personnel to cope. Apply—**KEITH BLACKMAN, LIMITED**, Mill Mead Road, London, N.17.

BOUND VOLUMES.—We can arrange for readers' copies to be bound in full cloth at a charge of 25s. per volume, post free. Send your copies to the SUBSCRIPTION DEPARTMENT, Tothill Press Limited, 33, Tothill Street, London, S.W.1.

in the previous year. The directors recommend transfers of £43,800 to capital reserve and £145,000 to revenue reserves; and payment of a final dividend on the ordinary and "A" ordinary shares of 1s. 3d. per share less tax at 9s. A statement by the Chairman, Sir Alexander L. McColl, draws attention to increases in turnover and trading profits, though the ratio of trading profits was slightly less. With regard to prospects for the current year, shortages of materials are no longer an anxiety and the Chairman considers that, with a record order book and increased plant facilities, greater output should help to absorb increased costs of materials and wages and to meet competition in world markets.

Royal Patronage for Railway Convalescent Homes.—Her Majesty the Queen has been graciously pleased to grant her patronage to the Railway Convalescent Homes.

British Industries Fair.—The 1954 British Industries Fair will be held in London and Birmingham from May 3 to 14 next year. Overseas buyers who registered at the



Beams for the new roof at Sheffield Victoria Station in position

Earl's Court, Olympia, and Birmingham sections of the fair this year totalled 12,627 as against 13,245 in 1952. An analysis of attendance figures shows that nearly 30 per cent more people came to the London section of the fair this year than last. Earl's Court, with only a third of the London exhibitors, attracted a greatly increased number of buyers and the number of overseas buyers (5,707) who went first to Earl's Court and registered there exceeded those going to Olympia (5,338).

British Automatic Co. Ltd.—The report of the British Automatic Co. Ltd. for the year to December 31, 1952, shows a net profit of £30,677 as compared with £30,652 in 1951. To this is added £8,000 provision for depreciation of investments which was in excess of requirements. After appropriations for capital and revenue reserves, and £4,323 written off for goodwill, there remains £25,184. The dividend of 7½ per cent less income tax which the directors recommend will absorb £16,500 to which must be added £50,798 balance of profits from 1951. The sums to be carried forward are £42,134 to the balance sheets of the British Automatic Co. Ltd. and £17,348 to subsidiary companies.

Rejection of San Paulo Claim.—The directors of the San Paulo (Brazilian) Railway Co. Ltd. have informed shareholders that the President of Brazil has reaffirmed his previous rejection of the company's supplementary claim for £3,791,774. In a report of a Brazilian government department it is suggested that the company has the right to claim as recognised capital only the item relating to the electrification works, having further the right also to retain "dominion and possession" of the properties which are not directly or indirectly connected with the concessionary public service. The company understands that the Brazilian Ministry of Transport will shortly begin to delimit the lands. Until it does so it cannot be said how much of the non-railway lands will remain in the possession of the company. The lands claimed by the company as non-railway lands and offered to the Government at the time of expropriation were valued at that time at £1,414,000.

Forthcoming Meetings

- June 9 (Tues.).—Institution of Civil Engineers at Great George Street, Westminster, S.W.1, at 5.30 p.m. Annual General Meeting.
- June 11 (Thu.).—Railway Students' Association, Evening visit to Feltham Marshalling Yard, British Railways, Southern Region.
- June 13 (Sat.).—Railway Students' Association. Visit to Guinness' Park Royal Brewery. Party will meet at 9.30 a.m.
- June 13 (Sat.) to 14 (Sun.).—Permanent Way Institution, visit to Dawlish Warren, British Railways, Western Region.
- June 15 (Mon.) to 17 (Wed.).—British Iron & Steel Research Association, at Ashorne Hill, Leamington Spa. Conference on Heat Treatment Practice.
- June 18 (Thu.).—Institution of Civil Engineers at Great George Street, Westminster, S.W.1, from 7.45 to 12 p.m. Conversation.
- June 20 (Sat.).—British Railways, Southern Region, Lecture & Debating Society.

Afternoon visit to London Transport Garage at Reigate.

June 24 (Wed.) to 26 (Fri.).—British Wood Preserving Association Annual Convention at Trinity College, Cambridge.

June 25 (Thu.).—Railway Students' Association. Evening visit to inspect new signal installation at Euston Station, London Midland Region of British Railways.

June 27 (Sat.).—Railway Students' Association. Summer outing to Woking and Hindhead. Party assemble at 2 p.m. at Woking Station, British Railways, Southern Region.

June 27 (Sat.).—Permanent Way Institution, Leeds and Bradford Section. Visit to Earles Cement Works at Hope.

June 28 (Sun.).—Railway Correspondence & Travel Society. Twenty-fifth anniversary special to Exeter. Train will leave Waterloo Station, British Railways, Southern Region, at 9.45 a.m.

June 29 (Mon.).—Indian State Railways Annual Dinner at the Rembrandt Hotel, Thurloe Place, London, S.W.7, at 7 for 7.30 p.m.

July 1 (Wed.) to 3 (Fri.).—Institute of Transport Annual Congress in Glasgow.

Railway Stock Market

Owing to Coronation festivities, business in stock markets has been on a very restricted scale this week, but a firm tone was maintained generally, and the upward trend in British Funds made further progress. Industrial shares again reflected selective demand on the view that the recent fall was carried too far and that some shares now offer apparently generous yields with good prospects of dividends being maintained. There seems little doubt, however, that a factor making for caution in markets generally is the big issues of steel shares expected during the next few months. Prevailing view is that they will be offered at prices showing a yield of around 7½ per cent, and if this is so, it would tend to make many other shares look dear in comparison, particularly in the engineering and kindred groups.

This comparison, it is argued, might tend to bring down prices of existing shares, and moreover the many millions of money which will go into steel shares mean that there will be much less available for investment in other sections of markets. In fact, the view appears to be growing that mainly because of the coming big steel issues, it seems unlikely there will be a sustained rally in markets this year. On the other hand, it can be argued that either British Funds are now too high or industrial shares too low. British Funds are attracting in preference to industrial shares mainly because of the fact that it is difficult to assess the industrial outlook, and there is still of course the fear that a truce in Korea might lead to a slump in Wall Street markets on the possibility of a difficult period in the U.S. as industries change over from rearmament to their normal activities. The City is continuing to take the view that a lower bank rate is probable later in the year, and this would of course make for higher prices for British Funds.

As was to be expected, foreign rails reflected the quiet conditions in markets generally, and, mainly owing to the small demand in evidence, prices tended to move lower.

At the time of going to press the recent sharp fall in White Pass & Yukon no par value shares has brought in buyers and the price strengthened a little to \$29½, while the convertible debentures recovered to £102½. On the other hand, moderate selling affected United of Havana stocks, and the 4 per cent "A" receded to 59, while the 4 per cent "B" was 53, the second income stock 21½ and the consolidated stock 4. In other directions, Antofagasta preference stock has also come in for a little selling at the time of writing and moved back to 43½; the ordinary stock

remained at 9. Canadian Pacifics, in common with other dollar stocks, have been affected by the reactionary tendency of Wall Street markets, and are changing hands around \$48½ at the time of writing. Wall Street's reaction was attributed to the possibility of an early truce in Korea and the fear of a certain amount of dislocation in U.S. industry when there is a downward revision of the rearmament programme.

Canadian Pacific 4 per cent preference stock was firm at £64½ and the 4 per cent debentures £81½. Manila Railway stocks kept very quiet with the "A" debentures at 80 and the preference shares 8s. 3d. In other directions, San Paulo units have changed hands around 6s. Mexican Central "A" debentures were 71, Nitrate Rails shares kept at 21s. 3d., Brazil Rail bonds were 7½, Chilean Northern 5 per cent debentures 27, Cordoba Central "B" debentures 55½, and Costa Rica 6½ per cent second debenture 60.

Firmness again ruled among road transport shares with West Riding at 36s. 3d., Southdown 32s. 6d., and Lancashire Transport 48s. 6d., while Devon General marked 28s. 6d. B.E.T. deferred stock has been steady at £520.

There have been small irregular movements in the engineering section, where the coming issue of many millions of steel shares over the next few months is a factor making for caution. It is realised that the majority of steel shares will be issued at prices showing yields above those now ruling of leading engineering and kindred shares, and this may for a time operate against an upward tendency in engineering shares generally. Another factor is uncertainty whether engineering companies who decide to reacquire their former steel interests will decide to raise more capital. It is assumed, however, that if more capital is required it is likely to take the form of issues offered to shareholders on attractive terms. Vickers have strengthened further to 48s. 6d. at the time of writing, but elsewhere, Guest Keen receded to 46s. 9d. The forthcoming annual meeting of Guest Keen may provide news whether this company plans to repurchase its former steel interests. John Brown is another which has to make a similar decision, though as in the case of Vickers and other companies this will of course depend on the terms offered for repurchase, which will presumably be a matter of negotiation.

Among shares of locomotive builders and kindred companies, Beyer Peacock were 32s., Hurst Nelson 40s. 6d., North British Locomotive 13s. 3d., and Vulcan Foundry 20s. 3d. Gloucester Wagon 10s. shares were 11s., Wagon Repairs 5s. shares 11s. 6d. and Charles Roberts 14s. 7½d.